OLD!

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retro GAMER™



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THE RETROBATES

FAVOURITE TOMB RAIDER GAME



DARRAN JONES

Tomb Raider Anniversary, it's an exceptional update that never gets the love it deserves.
Expertise:
Juggling a gorgeous wife, two beautiful girls and an award-winning magazine
Currently playing:
Eagle Flight
Favourite game of all time:
Strider



NICK THORPE

Tomb Raider II expanded the original concept, and allowed you to lock Lara's butler in the fridge. What's not to love?
Expertise:
Owning five Master Systems (I sold two)
Currently playing:
Katamari Damacy
Favourite game of all time:
Sonic The Hedgehog



LUKE ALBIGÉS

Uncharted 2.
Expertise:
Pokémon Professor IRL
Currently playing:
Pokémon Moon
Favourite game of all time:
Micro Machines 2: Turbo Tournament



DREW SLEEP

Both *Legend* and the reboot shifted the series into their respective eras. They brought the gameplay up to speed and made Lara less of an object and more of a person. Well done Crystal Dynamics!
Expertise:
Quarantining sick Editors
Currently playing:
Final Fantasy XV
Favourite game of all time:
Final Fantasy VIII



SAM RIBBITS

I think Nick has hit the nail on the head. There's a serious lack of butlers in fridges in the majority of *Tomb Raider* games.
Expertise:
Pixels
Currently playing:
Pokémon Sun
Favourite game of all time:
Croc: Legend Of The Gobbos



PAUL DRURY

The first one just for the impression it made back then and for feeling proud when I told people it was made in Derby.
Expertise:
The Flying Burrito Brothers
Currently playing:
Robinson: The Journey
Favourite game of all time:
Sheep In Space



GRAEME MASON

Rise Of The Tomb Raider. Best fun I've had with Miss Croft since *Tomb Raider II*.
Expertise:
Adjusting the tape azimuth with a screwdriver
Currently playing:
Mass Effect 2
Favourite game of all time:
Resident Evil 4



DAVID CROOKES

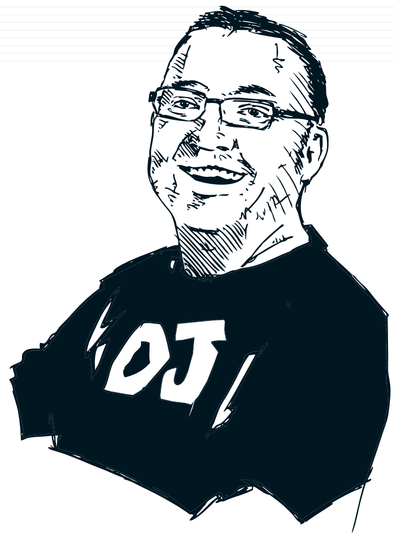
The first, if only for the memories of that jaw-dropping Christmas morning when I saw it.
Expertise:
Amstrad, Lynx, adventures, Dizzy, and PlayStation (but is it retro? Debate!)
Currently playing:
Crash Team Racing
Favourite game of all time:
Broken Sword



MARTYN CARROLL

Tomb Raider Anniversary. The original game is my favourite, and this reimagining brought it up to date with care and clear affection.
Expertise:
Sinclair Stuff
Currently playing:
Inside
Favourite game of all time:
Jet Set Willy

LOADING...



It's been a fantastic year for **Retro Gamer**. We've had our strongest sales since the magazine was first relaunched in 2005 and during that time I've seen your favourite gaming mag go from strength to strength. We've had some of the biggest-hitting games of all time on our covers this past year, from *Super Mario 64* and *Out Run*, to *Street Fighter II* and *Quake*, and our swelling readership means that more and more people are discovering the magazine for the first time.

It's been an equally successful year for our cover star Lara Croft, who is now celebrating an impressive 20 years as one of gaming's most important icons. We celebrate this momentous achievement by not only speaking to the original Core Design creators who made the early *Tomb Raider* games so essential to play, but also Crystal Dynamics: the company charged with looking after Lara after Core lost the franchise. We've covered *Tomb Raider* in the past, but not from the angle of both companies and I feel it makes for an honest and interesting read. It's also exhaustive, with no less than 14 people interviewed, covering all aspects of the franchise's design – in short, it's one of the biggest articles we've done and a great way to close the year.

Enjoy the magazine!

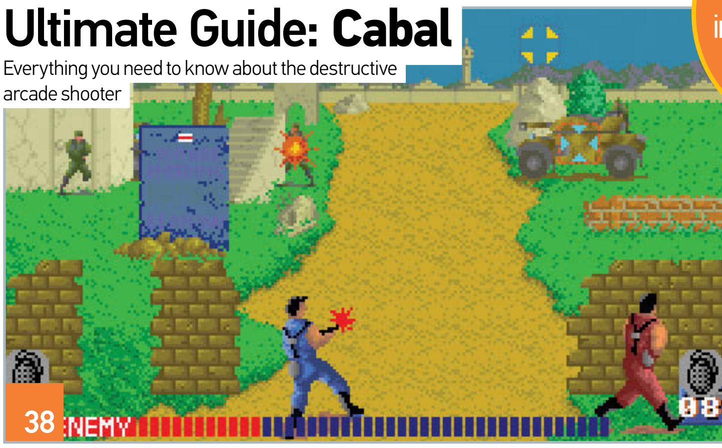




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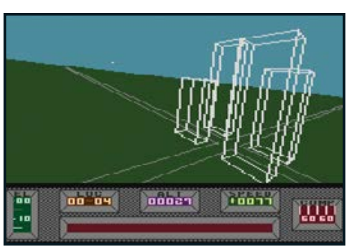
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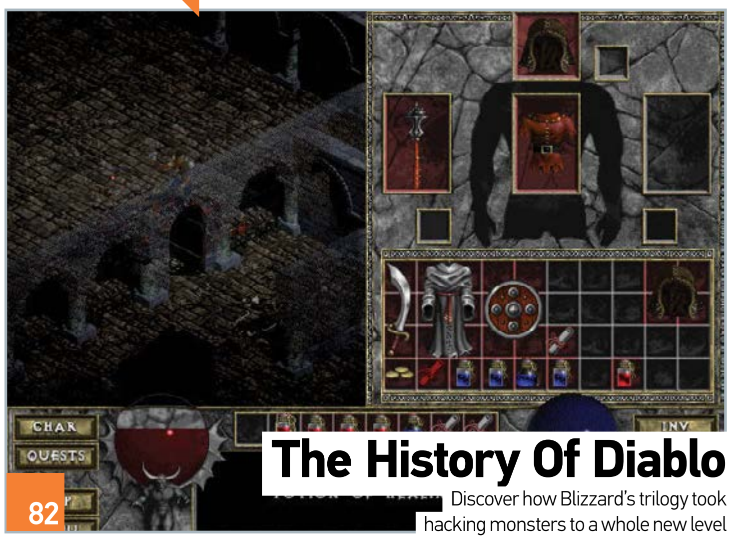
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> **"Clicking on the cows would open up a portal to a special place"**





REVIEWS



ESSENTIALS







CONTENTS

A NEW MEGA DRIVE PLATFORMER EMERGES

Tanglewood leaps onto Sega's 16-bit machine

If you're a big fan of the Mega Drive, you might have noticed a Kickstarter project floating around online recently by the name of *Tanglewood*. We couldn't help but be intrigued by the project, especially as the lead developer Matt Phillips has a background in developing for modern platforms with companies such as TT Fusion and Deep Silver Dambuster Studios. We spoke to Matt to find out more about the game, as well as why he's taken such a leap back in time.

Can you tell us a little bit about the premise of *Tanglewood*?
Tanglewood is set in a world of thick forests and barren deserts, multiple suns and moons, and a long history of now-extinct races of creatures. Those remaining are split into two factions – the timid day dwellers, and the vicious nocturnal hunters. The game stars Nymn – a member of the former – who has gotten stuck out in the open, away from the pack's underground home, and must survive the night and get to morning with all limbs still intact.

The game is a 2D side-scrolling platformer, and the player must utilise Nymn's skills of evasion, as well as tricks, traps, and abilities to escape or eradicate intimidating predators.

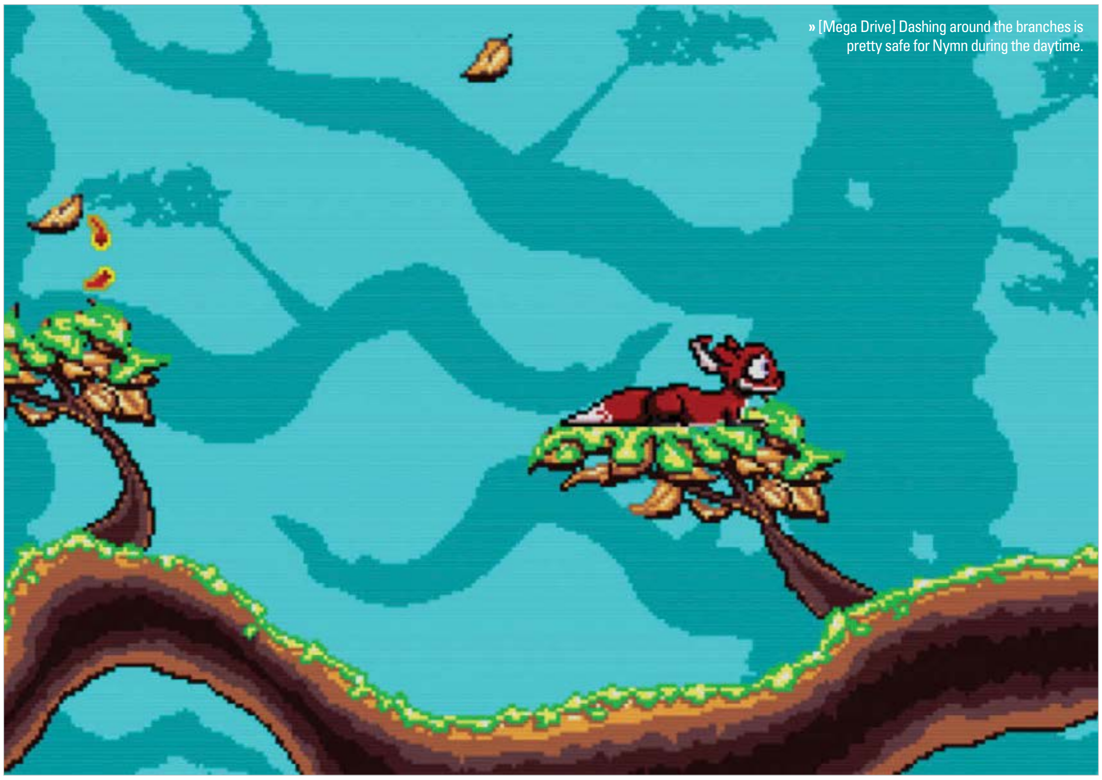
The Mega Drive was blessed with a wide variety of platform games. How does *Tanglewood* stand out from the crowd?
Tanglewood has a few modern game design tricks up its sleeves – a day and nighttime cycle, which affects the types of enemies Nymn will encounter, as well as physics-based puzzle elements that weren't introduced to gamers until relatively recently. It also sports a dark and unnerving tone that breaks the mould from the typical Disney-inspired, colourful platformers of the Nineties.

I've also stripped away some of the arcade-style elements present in most console games of the era, and reworked it to better suit the living room where the player has the advantage of being able to take their time. The game has no weapons, no HUD, no limited lives, no looping background music, you don't kill enemies by jumping on their heads, and it tells a story entirely through gameplay with no text or spoken-word narrative. This approach isn't uncommon by today's standards, but for the Nineties this may well have been a set of traits that stood out.

You've been in the games industry for a while now, creating games for modern platforms. Why take on a retro project?
The idea has been at the back of my



» *Tanglewood* will be available as a physical Mega Drive cartridge to fit nicely into your collection.



» [Mega Drive] Dashing around the branches is pretty safe for Nymn during the daytime.

> **"I've always wanted to create a game for one of the machines I grew up with"**
> Matt Phillips

head since childhood and it wasn't fading away with time.

I've also grown fond of the simplicity of programming for older machines. It's a 'bare metal' experience, and the machine does exactly what you tell it to with few surprises. It comes at a cost, though: the machine's specs are a whole world away from what I'm used to with current platforms, and I've cut corners that I've never had to consider before – things so seemingly basic as whether or not to support lowercase characters in the font to save graphics memory. I've also lost portability – I can't build this code for other 16-bit platforms, so it'll need a lot of work or possibly an entire rewrite if I wanted to create a Super Nintendo version.

Why did you choose the Mega Drive as the platform for the game?

I've always wanted to create a game for one of the machines I grew up with, and the Mega Drive stands out as my all-time favourite, so I gravitated towards it. The idea was planted further into my head during my time at Traveller's Tales – a studio still rife with passionate Amiga and Mega Drive programmers from its *Puggsy, Toy Story, Mickey Mania* and *Sonic 3D* days – and I was convinced that it's an achievable dream I should finally see through.

You're using original Mega Drive development tools from the Nineties, which is an unusual step to take today – why have you chosen this approach?

I wanted to put an emphasis on authenticity – if I was going to follow my dream of creating a Mega Drive game from back when I was nine years old, I'm going to do it like it was done when I was nine years old, which means learning the programming language of the time and getting hold of the tools and software that would have been available back then.

It was also a big unique selling point and one of the hooks that would make my game stand out from other homebrew releases.

Who are your collaborators who are working on *Tanglewood*?

I have the pleasure of working with Simon Butler, a veteran from Ocean Software, and Adoru, who was a character and cutscene artist for *Pier Solar*, the last big game to be released on the Mega Drive. I have also had a big hand from my friends, who [helping with] playtests to help shape the prototype into what you see today, and are providing masses of encouragement to see this project through.

You've already announced PC, Mac and Linux support for gamers who want to play *Tanglewood* but don't own a Mega Drive. Are any other platforms planned for the future? Any more consoles, perhaps?

I've been asked about a SNES port, and I gave it some serious consideration, to the point where I started integrating SNES support into my tools to see how it goes. It's going to be quite a big job, though – I'll need to learn yet another assembly language and a completely new system, then rewrite the entire engine and game code from scratch, so for now it's on the back burner. The other platform I've considered is the Dreamcast. It still has a considerable following, and new games are generally well received on the system, so perhaps I'll try integrating support for it in my PC game engine.

As for further into the future, I would love to do a high definition rerelease on modern consoles, with updated graphics and an all-new soundtrack. *

CROWDFUNDING UPDATE

What's happening with other retro campaigns?

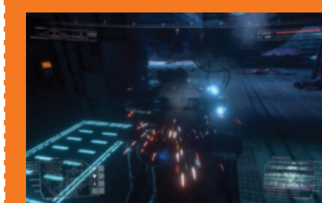


SOCKS THE CAT

This SNES platformer was designed in the Nineties, but was cancelled. Perhaps aided by the presidential election in the USA, this attempt to revive it managed to exceed its Kickstarter goal of $30,000 by $3,148.

BLOODSTAINED: RITUAL OF THE NIGHT

While the release date has been pushed back to 2018, Koji Igarashi's return to the Metroidvania genre has been making good progress. A well-received demo version was released to PC players in mid-2016.



SYSTEM SHOCK

This remake finished with $1.35 million in funding, well ahead of its $900,000 goal. The game has had its release date pushed to 2018, but will be coming to PC, Mac, Linux, PS4 and Xbox One.

SHAQ FU: A LEGEND REBORN

Things have been quiet regarding this revival for a while. Since the trailer in late 2015 we haven't seen much updates, though the team has assured backers that development is still going well.

ZX SPECTRUM VEGA PLUS

The version of the ZX Spectrum plug-and-play unit is edging closer to release. After a launch party in October and a showing in November, the device is receiving some final tweaks before release.



REBUILDING A RETRO CLASSIC

KEVIN TOMS ON RECREATING FOOTBALL MANAGER FOR A NEW GENERATION

When we last spoke to Kevin Toms in issue 146 he was busy porting his classic *Football Manager* game over to iOS under the name *Football Team Coach*. Fast-forward to today and it's now called *Kevin Toms Football Star Manager* and is available on both iOS and Android. Darran was keen to find out more.

What have you learned since the original release of *Football Manager*?
I have learned an enormous amount. Specifically about the original game and now, however: I learned people still play my 1982 game on emulators, and they are happy that I recreated it with *Football Star Manager*. But why were they still playing the original when there have been so many other football management games and so many technology improvements? Gameplay. The sheer pleasure of playing it and how easy it is to play but subtle enough to keep your interest. That is what I recognised, I knew why it worked and I recreated that with the new game, which is why people like it so much.



» You can view our full interview with Kevin on our YouTube channel: bit.ly/retrogameryt.

What significant changes have you made to the game since its original release?
I deliberately wrote *Football Star Manager* to feel very similar to the original. I even used the 1982 team and player names. But I did not want it to be exactly the same. I have evolved the design with additions like the European Cup, players that age and retire, morale boosts, and other changes. It continues to evolve, but a severe design restriction I apply is to keep the retro feel and play of the original game.

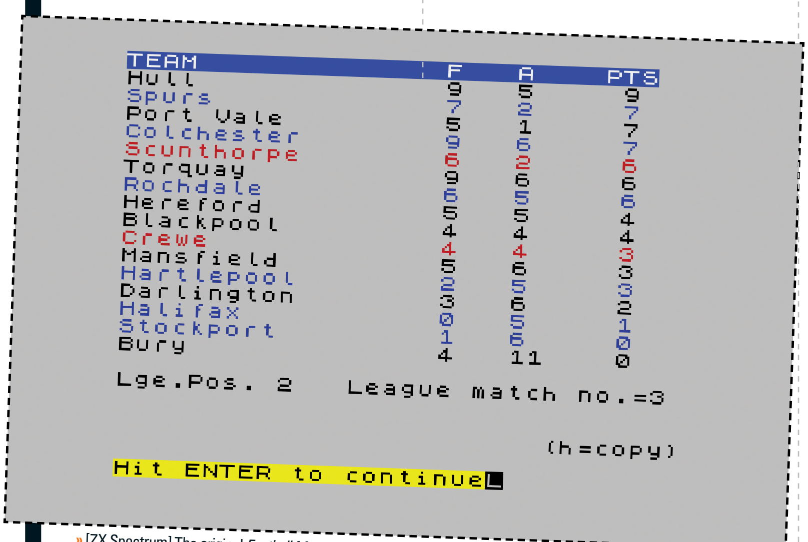
How are you combating the popularity of Sega's own *Football Manager* game?
I am not even trying to do that. My market is different. This is a very mobile, pick-up-and-put-down game. It's always there for when you have a minute to relax and progress your team. It gets straight to the point of picking your team, buying and selling players and playing matches. It is focused on the important things that it is both exciting and relaxing!

> "For a football management game, it is like reading a novel about a football manager"
> Kevin Toms

Is it possible to take a weak team to the top of the league?
If you build it up judiciously by buying and selling players well. Interestingly I managed to go bankrupt playing by being reckless, and I wrote it!

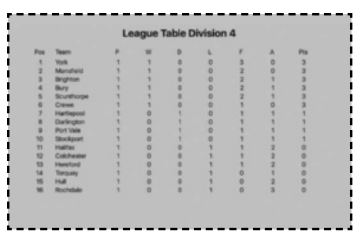
How many teams are now available and what divisions are available?
As I said this is deliberately similar to the original, that was a design choice. You start with 64 teams in four divisions, like 1982. However this is a part of the game that I will be evolving.

Why do you think the football management genre remains so popular today?
Well to me, when you play a lot of games it is like taking part in a movie – very visual. Whereas a football management game, the original 1982 *Football Manager* I created, and my new game *Kevin Toms Football Star Manager* included – both of them are text-based games. It's the words on the screen that describe what is happening and the person playing feels part of it. So for a football management game it is like reading a novel about a football manager, but it is your story that you are making, you are part of it. Not sure if that makes sense, but players definitely feel what happens. ✱



TEAM	F	A	PTS
Hull	9	5	9
Spurs	7	2	7
Port Vale	5	1	7
Colchester	9	6	7
Scunthorpe	6	2	6
Torquay	9	6	6
Rochdale	6	5	6
Hereford	5	5	4
Blackpool	4	4	4
Crewe	4	4	3
Mansfield	5	6	3
Hartlepool	2	5	3
Darlington	3	6	2
Halifax	0	5	1
Stockport	1	6	0
Bury	4	11	0

» [ZX Spectrum] The original *Football Manager* has now been entertaining gamers since 1982.



» [Android] *Football Star Manager* is based on the original 8-bit classic so all the expected features are included.

***Football Star Manager* is available now. Download it for £2.99 on iOS from bit.ly/ioskevintoms and £2.99 or Android at bit.ly/andkevintoms.**


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the vault

THE COOL RETRO STUFF THAT WE'VE HAD OUR EYE ON THIS MONTH

Art Of Atari

This is quite simply the most sumptuous art book we've ever seen. Every single spread looks wonderful, effortlessly showing off the excellent images from a variety of incredibly talented artists, who helped define Atari's early games. The artwork is backed up with some exhaustive in-depth interviews that feature a number of key people, including George Opperman, Hiro Kimura and Warren Chang and the book also delves into Atari's advertising and promotion strategies. A truly superb piece of work that deserves to be on every gamer's coffee table.

Price: £34.99 **From:** funstockretro.co.uk

PICK OF THE MONTH

20 Years Of Tomb Raider: Digging Up The Past, Defining The Future

Written by Crystal Dynamics' community manager, Meagan Marie, this is a glorious book that covers every aspect of the franchise, from its early success to the eventual takeover by Crystal Dynamics. Filled with amazing art and excellent interviews, it's an essential slice of *Tomb Raider* lore that all fans should own.

Price: £16.99 **From:** amazon.co.uk

Nintendo Archives

Our latest retro tome features some of our greatest content from the past 11 years of **Retro Gamer**. Handpicked by Darran himself, it features all of Nintendo's main consoles up to the GameCube, as well as the company's most important Game Boy releases.

Price: £9.99 **From:** imagineshop.co.uk



ZX Spectrum Games Code Club

Gary Plowman takes 20 popular games and breaks them down in Sinclair Basic, explaining how they work and what steps you can take to easily modify them. It's an interesting take on the overcrowded Spectrum book scene and the perfect introduction to bedroom coding.

Price: £9.99 **From:** amazon.co.uk

The Games People Play

The story of *Tetris* has been regaled many times, but rarely in such an entertaining and interesting way. Created by Box Brown, *Tetris: The Games People Play* is a brilliantly designed book that looks at the Cold War, the game's inception, how it made its way to the west and the many people involved with its creation. A well-told story covered in a very unique way.

Price: £9.99 **From:** amazon.co.uk

Playing At The Next Level: A History Of American Sega Games

It's light on new interview content, but there's no denying that Ken Horowitz's take on the Mega Drive is an interesting one. The best material is found early on, as Sega establishes itself and forms a relationship with Tonka, but later chapters that focus on developers such as Novatrade International and BlueSky Software are equally interesting.

Price: £32 **From:** amazon.co.uk

Here's my bio… Paul Rose
Paul Rose is probably better known as Mr Biffo – the creator and chief writer of legendary teletext games magazine *Digitiser*. These days, he mostly writes for kids TV, but can still be found rambling on about games, old and new, for his daily website, Digitiser2000.com.

Boxed memories

I don't know about the rest of you, but for me nostalgia has multiple triggers. I dare say I'm preaching to the congregation when I doff my cap to the ability of a game I loved transporting me back to a certain time in my life. Significant people, places, events – I can link all of them back to a certain game.

Jet Set Willy is a portal directly back to Peter Lemon's bedroom in 1984. I remember being surprised by how clean and tidy it was in comparison to the rarely-hoovered mess that I slept in. I can't look at *Knight Lore* without remembering being in Murray Haynes' attic, and showing him the screenshots in *Your Sinclair*. For me, the little-loved *Bugaboo The Flea* – picked up from a stall at Wembley Market – is always soundtracked by Meat Loaf's *Bad Attitude* album.

Games have become markers in my life – like artificial reefs upon which memories can gather and thrive. Between the games, the memories struggle, become more vague and indistinct, lost in the ocean of life's daily routine.

But it wasn't just the sounds and sights of a game, or the place – for me it was always about the full package; the physical sensation of opening a Spectrum game cassette case, and risking a paper-cut on the inlay. Or pulling a SNES cartridge from its cardboard sleeve. Or squeezing a PlayStation case to prise it apart. Maybe I'm weird, but the scent of a manual, the tangibility of a cartridge – the satisfying click as it slotted into place – was all part of the experience of playing a game.

As games become increasingly ephemeral – existing on our console or computer hard drives as barely more than clouds of electronic dust motes – I wonder if something has been lost. For now, physical copies of games still exist, but they're increasingly irrelevant. As 'day-one' patches and installations stretch out longer and longer, I'm starting to wonder whether game discs contain little more than instructions to download the software.

I know, I know… whinging about progress is an old man's folly, and will make as much difference as complaining about the proliferation of fried chicken shops, or not being able to leave our doors unlocked. I don't know if it's age, or it's a consequence of this progress, but games don't have the impact on me that they once did. There's less for me to hang onto – literally. Without the physical act of playing a new game – going to a shop, handing over money, bringing it home, opening it, loading it up – there's less ceremony somehow.

And yes, if you're wondering, I do miss vinyl albums too. And Spangles. And white dog poo. Though I did see some of that while out playing *Pokémon Go* recently. Unless it was a fossilised cigar, or something. I digress.

What's the solution? Well, that's the thing: there isn't one. You can't put the genie back in the game box. I just hope that, perhaps, for those purists among us, who have been knocking around a while, we might see some sort of resurgence of physical media, the way vinyl came back. Consider this the official start of the campaign. *



"Physical copies of games still exist, but they're increasingly irrelevant"

What do you think?

Do you agree with Paul's thoughts? Contact us at:

RetroGamerUK | @RetroGamer_Mag | retrogamer@imagine-publishing.co.uk



Sega Goes Miniature

Hardlight creates new takes of Sega games for mobile. Producer James Booth tells us more…

Can you tell us a little bit about your history as a gamer? What systems did you play and what were your favourite games?
I was quite fortunate. My brother's a few years older than me, so I'd always get hand-me-downs when he moved onto something else, so I actually started with a Commodore 64. I first played *Sonic The Hedgehog* on a demo pod in Comet, and I was like, 'Wow, this is way better than any C64 game," so any of the *Sonic* games are good. I'm also a big Nintendo fan as well – I'm one of those people that didn't want to pick a side, so *Super Mario World* is also one of my favourite games.

How was Hardlight formed?
The start of my career came from Sega Racing Studio, and when that closed down it formed a smaller group, the Core Technology Group. This was the best of the best – they're the ones they'd go to if there were any problems for any external studios. From that – I guess it was five years ago, maybe – there was a decision made that we wanted to start developing games again in the UK, and that's where Hardlight was born.



» James started his career on Sega Racing Studio's revival of *Sega Rally*.

Hardlight has been responsible for games like *Sonic Dash* and *Crazy Taxi: City Rush*. What's it been like to work with such beloved series?
I've been a huge gamer my whole life, so working with Kanno-san on *Crazy Taxi* was incredible, and obviously working with Iizuka-san is just mind-blowing. Truthfully, and I don't want to sound too much like a fanboy, *Sonic* is one of the reasons I got into gaming and it is one of the reasons I wanted a Mega Drive. So just being able to work with Sonic Team… I'm very honoured and privileged.

When Sega Racing Studio took on *Sega Rally*, it was for high-end machines. What are the differences when it comes to adapting classic series to mobile platforms?
I'm more from the gameplay school of thought when it comes to design, and the biggest thing for me is accessibility and controls. With mobile, you reach such a wider demographic of people, and I think with it being free-to-play as well you have so many different types of people play the game, it's such a challenge to be able to balance your game and make it accessible for such a wide range of people. I think with the titles we've worked on like *Sonic* and *Crazy Taxi*, both of them do reach a large demographic, so it's ensuring that we reach as much as possible and make it as accessible as we can.



» James is surrounded by *Puyo Puyo* cushions here – we reckon that'd make a pretty good mobile game…

> "Sonic Dash has been downloaded over 200 million times, that's a lot of people!"
> James Booth

Games like *Sonic Dash* have a much longer life cycle than most games. How do you keep players invested?
With *Sonic Dash*, it's been out three and a half years nearly, so I'm very fortunate that I was there from day one – I started working on *Sonic Dash*, and three and a half years later I'm still working on *Sonic Dash*. I think one of the most important ways of doing that is just keeping those regular updates coming. We started with four characters and we've expanded the roster to over ten, and I don't think we're going to stop any time soon.

You've also had *Sonic Dash* adapted for arcades by Sega Amusements International – how much involvement do you have in that?
We didn't have too much – it's our code and our visuals, but in terms of the game design that's all their choices, so not a whole lot to be honest.

Which game would you suggest readers start with if they haven't played any Hardlight games before?
Sonic Dash has been downloaded over 200 million times, that's a lot of people! It's been three and a half years and I guess the thought was that you release a game and it starts to tail off, but it's just not happened with *Sonic Dash* and there are still new players discovering the game. It's the one I would like people to play.

So finally, which classic Sega properties would you like to work with in the future?
Oh, that's a tough question. I'm an absolutely huge retro gamer – if I had to put it down to a list, *Space Harrier* would be one, and of course *OutRun*, I love *OutRun*. *





» [iOS] *Sonic Dash* has been downloaded by an absolutely crazy number of people – over 200 million!



» [Arcade] James wants to work with *Space Harrier* in the future. How would it work on mobile?



retro GAMER.net READER'S REVIVAL



Bishoujo Senshi Sailor Moon

"IN THE NAME OF THE MOON I WILL PUNISH YOU!"

#108

» ARC SYSTEM WORKS » MEGA DRIVE » 1984

There's been a real anime and manga influx in recent years, but way back in the early(-ish) Nineties, Japanese animation and comics were hard to come by in the mainstream. However in Italy it was a different story, Japanese animation was everywhere. Being half-Italian, I was over there all the time visiting family and I built up a passion for anything weird and anime. One such show was *Sailor Moon*. It was bright and bizarre and, despite all the cuteness, I found it captivating even though I didn't understand it (it was all in Italian) and would watch it whenever I was visiting.

Imagine my surprise when on one visit I got to play as Sailor Moon herself in *Bishoujo Senshi Sailor Moon* on my cousin's Mega Drive. It was amazing, and knocked spots graphically, in sound, and animated smoothness off anything I had played on the port up until that time. It is pretty much a *Streets Of Rage 2* clone in its layout – complete with special moves that are perfect for tight spots.

Unlike the *Streets Of Rage* games you could play as five different characters, Sailor Mercury, Mars, Venus, Pluto, and, of course, Sailor Moon all of which had their own set moves. This game isn't without its flaws – there isn't much variety on enemies, and sometimes on early levels you can feel like you're just going through the motions.

However, if you can look past its few faults and track down this game, play it – it has some of the most impressive sound and graphical cutscenes of any Mega Drive title. *

SEPP SALERNO

LARA CROFT 20 YEARS OF AN ICON TOMB RAIDER

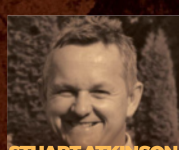


TOM RAI

Few characters achieve iconic status, and Lara Croft ascended to become a superstar. But it takes a lot of hard work to stay relevant over two decades, as Nick Thorpe and Darran Jones learn from the people tasked with bringing Lara to life…

HALL OF HEROES

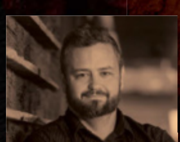
Everyone we spoke to about Lara Croft



STUART ATKINSON
ARTIST/ANIMATOR – CORE DESIGN



SHELLY BLOND
VOICE ACTOR – LARA CROFT



WILL KERSLAKE
LEAD LIVE DESIGNER – CRYSTAL DYNAMICS



IAN LIVINGSTONE
CEO – EIDOS



MEAGAN MARIE
COMMUNITY MANAGER – CRYSTAL DYNAMICS



NATHAN MCCREE
COMPOSER – CORE DESIGN



In the mid-Nineties, the videogames industry was short on icons, but there were plenty of characters to go around. You were hardly a developer if you didn't have your own 'hero' – and Core Design had just spun the kart racer *BC Racers* off from its *Chuck Rock* series. Save for the loose tie of ancient history, that game might not have much to do with *Tomb Raider* but for a single name: Toby Gard.

As a talented young designer, Toby Gard had moved on from *BC Racers* with the vision to create a project unlike anything else at the time, and something that would become truly iconic. *Tomb Raider* was to be a 3D action-adventure game, distinguished by its female protagonist. Initially conceived as a South American adventurer by the name of Laura Cruz, she would eventually become the British aristocrat Lara Croft, an athletic and independent adventurer with a penchant for collecting ancient artefacts. While Lara wasn't

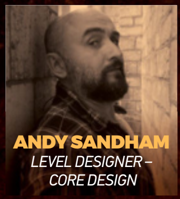

PETER CONNELLY
COMPOSER – CORE DESIGN


NOAH HUGHES
CREATIVE DIRECTOR – CRYSTAL DYNAMICS


ASH KAPRIELOV
OWNER – TOMB OF ASH


JAMES KENNY
ARTIST – CORE DESIGN


GAVIN RUMMERY
PROGRAMMER – CORE DESIGN


ANDY SANDHAM
LEVEL DESIGNER – CORE DESIGN


MURTI SCHOFIELD
WRITER – CORE DESIGN


HEATHER STEVENS
ARTIST/LEVEL DESIGNER – CORE DESIGN

BRINGING LARA TO LIFE

Shelly Blond on voicing Lara in the very first Tomb Raider game



How did you get the job of voicing Lara Croft?
I was asked to audition for the character after Eidos and Core had been searching for the right voice for quite a few months. I was sent a few sentences from the script, along with a very rough sketch of Lara, and I recorded them into a cassette recorder and sent it to Core. A few days later I was asked to take part in a conference call with a few people from Eidos and Core, including Nathan McCree, and after performing a few more audition lines was told I had the job. It was wonderful to get the role, knowing they had looked for so long and so hard.

How much information were you given about the character before performing the dialogue?
For the audition I was simply given the rough drawing and told she was a girl with a feel for adventure and 'spoke quite well'. I took that on board and read for the part as I felt she would sound. For the actual job, I was given more detail about her upbringing and background. I was asked to perform her voice in a very plain non-emotive manner and in a 'female Bond' type of way. I would have added more inflection, tone and emotion to my voice but they wanted to keep it how they felt it should sound, which was quite right. My job was to bring their character to life.

Why didn't you reprise the role in the sequels?
I was asked to reprise the role for the second game, as the chemistry worked, the game was so successful and reviews for the voice as well as the actual game were great. But by that time I was contracted for other companies and we couldn't make that work. I did give my permission for them to use all my sound bites from the first game for *Tomb Raider II* and *Tomb Raider III*... like the fighting, falling and 'yes' and 'no'. So I am still in the games. Judith Gibbons voiced the game but it's all Lara's original sound bites.

It's such an honour to be the original voice of such an iconic character. There are so many fans of the games, it has touched so many peoples' lives, had such a global impact and I am honestly thrilled to be part of it all.



» [Saturn] The infamous T-Rex encounter, as captured from a nice safe vantage point.

> "A real buzz was building around Tomb Raider, but we were still prudent with our forecasts"
> Ian Livingstone

the first female protagonist in games, this was still a bold choice – few games included strong female leads. Dwelling on Lara Croft's qualities as a character, however, diminishes the fact that the choice to make a 3D action-adventure game was also bold. Not only was the project unlike anything else available at the time, the lead platform for the game was the Sega Saturn – a machine that would become well-known for its awkward and non-standard handling of 3D visuals.

"We were definitely trailblazing a lot of what we did on *Tomb Raider*," says Gavin Rummery, a programmer on the first two *Tomb Raider* games. "When Toby first described what he envisaged on my first day at Core, I wasn't sure it was possible because nothing like it existed." Of course, had that precedent existed, it wouldn't have been a big deal anyway.

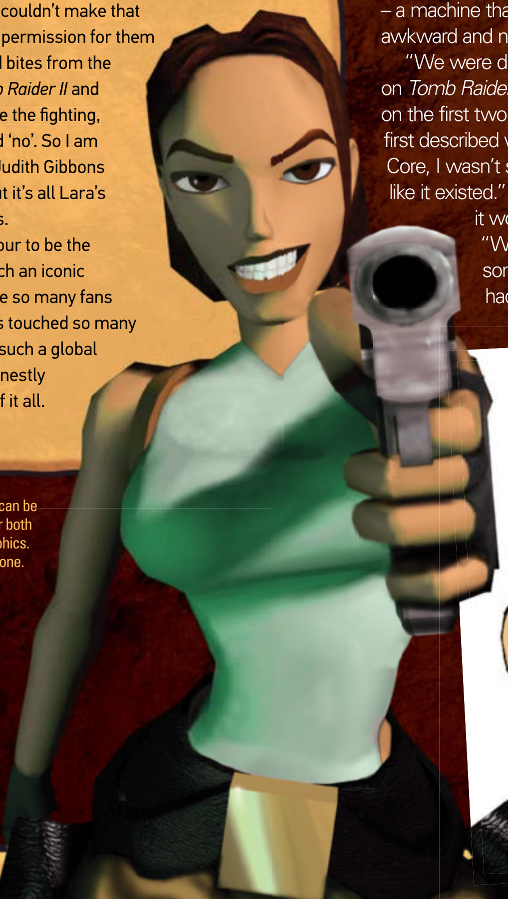
"We didn't think about looking at repeating something that had been done before, so had never considered needing other games for reference," recalls Heather Stevens, a graphic artist and level designer on the first two games.

It was an enormous departure from what Core Design had done before, and the team struggled with it. "What appeared the greatest challenge was how on earth we would create the actual environments and get Lara to interact with them," Gavin recalls. "Heather was attempting to build them directly in 3D Studio which could only edit in wireframe mode, but neither Paul [Douglas, programmer] or I had a clue how we could get a character to interact with freeform environments given the processing constraints of the day."

"The breakthrough was the decision to build everything on a grid," continues Gavin. "To me this was the point *Tomb Raider* became feasible and everything seemed to fall into place. Toby was able to define Lara's moves, Paul could get the control working, and I was able to build a level editor that Neal [Boyd, artist] and Heather could use to build and test the environments far quickly than would've been possible using 3D Studio."

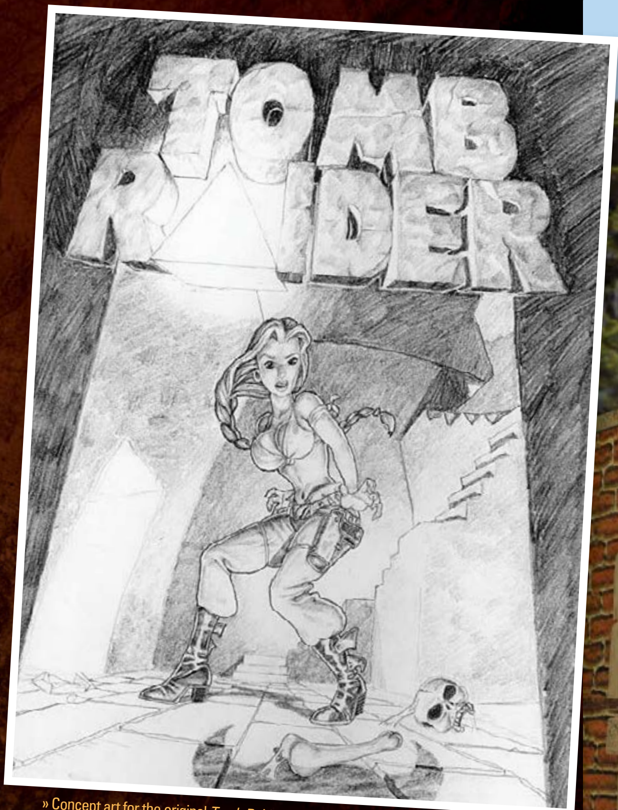
Getting the sound of the game right was important, and this was a task which fell to Nathan McCree – although given the amount of time he had to so, it might have felt rather more like it had fallen *on* him. "The first *Tomb Raider* was such a rush. I think I had about three weeks to compose the music. It was mostly a case of, write something and then figure out a way to use it later," he tells us. "What became apparent during the installation process was that the tunes worked best when placed in specific locations to describe a particular place or feeling at a specific moment in the game. And this gave birth to the idea of location-specific music."

Nathan wasn't the only one feeling the pressure, as the whole team was battling a very tight deadline. "It



» Lara's iconography can be attributed to her appeal for both male and female demographics. She is a hero for everyone.





» Concept art for the original *Tomb Raider*. Showing Lara in, unsurprisingly, a tomb.

was tough developing *Tomb Raider* (long days etc.) but very rewarding," Heather confirms. This eventually led to extra staff being drafted in. "I was an animator and model builder working in the room next to the *Tomb Raider* team and also a good friend of Toby Gard," explains Stuart Atkinson, an artist who worked on the earlier *Tomb Raider* games. "He asked if I could help him out with enemy characters, being about four months from the deadline, the pressure was getting pretty serious and his workload was too much. So I jumped at the chance!"

Tomb Raider was released in October 1996 for the Saturn, followed by PlayStation and PC versions in November. It detailed Lara's quest to acquire the Scion Of Atlantis for the mysterious businesswoman Jacqueline Natla. The game was a critical success, and commercial success would follow. But though the team at Core Design was sitting on a hit, it didn't know it. "None of us knew it would be anything like the success it was," says Gavin. "We could tell it was getting favourably received, but it was only when we started seeing the actual sales figures that we realised just how big a success it was." Even the upper management wasn't aware that the game would be enormous. "The preview coverage had been very encouraging. A real buzz was building around *Tomb Raider*, but we were still prudent with our forecasts," says Ian Livingstone, then president and CEO of *Tomb Raider*'s publisher Eidos. "I recall that we put a number in the budget of 100,000 units being sold. Little did we know that the first *Tomb Raider* would go on to sell over seven million units!"

While there's no doubt that the game was a team effort, one man's influence is often cited as a key factor behind the game's success. "Thanks to a very obstinate Toby Gard and his vision of a strong female heroine in a computer game, we can now appreciate the unique Lara Croft," says Heather. "Undoubtedly Lara was a huge aspect in the success of the game and the marketability of the product. She was a character ▶







» Although concept art showed Lara's ponytail it wouldn't appear in-game until *Tomb Raider II*.

AROUND THE WORLD

Then Tomb Raider games have taken place all over the world. How many of the following exotic locations do you remember?



▶ that won the hearts of both male and female players. However the game was so much more than the character herself," she continues. "I think the key factor was Toby Gard," Stuart concurs. "It was his vision and he made sure everyone followed it through. He was also lucky with the team he ended up with, not only were they talented, they trusted and believed in him." However, that's not the only factor he credits. "And, of course, how amazing the first game was to play back in the day, it just blew me away."

Unfortunately, Toby Gard would not stick around for the success that followed. Creative differences drove a wedge between him and the management at Core Design, and he would leave the company without getting involved in *Tomb Raider II*, passing up enormous royalties in doing so. Most of the team remained and moved onto the sequel, which had to be ready in less than a year. Surely such a tight deadline was a pain? "Working on the sequel was a natural progression," Heather points out. "We had invested so much time and creativity into *Tomb Raider* that it would have been unthinkable to just walk away from it. It was action stations again for most of the team, and time to get our heads down again."

Externally, Lara Croft was already becoming a crossover star, a fact which brought the success of the first game home to the developers. "On the lead up to the release of *Tomb Raider II*, we had many more press and TV interviews, so things started to hit home for me," Nathan recalls. *The Face* featured a cover story on the character and her popularity. Rhona Mitra was gaining recognition as the 'real life' Lara Croft, and she was already collaborating with Dave Stewart of the Eurythmics on music to be released under Lara's name. This exposure built anticipation for *Tomb* ▶









» Lara's dual pistols are just as iconic as the character is.







» [PC] Even the caverns were bigger in *Tomb Raider II*, thanks to graphical advances.



» Ash Kaprielov and several Core Design staff appeared at PLAY Expo's huge *Tomb Raider* celebration, which was organised by replayevents.com.

"I prototyped Lara riding a quad bike using only the animation editor"

Stuart Atkinson



» [PlayStation] *Tomb Raider II* added in vehicles, something that Stuart Atkinson was particularly proud in implementing.

▶ *Raider II* to a fever pitch, and Sony took advantage by signing an exclusivity deal with Eidos, ensuring that the PlayStation was the only console to receive it.

Back at Core, the team was busy trying to top what had gone before – even if it meant improving on finer details. "I was pleased to get Lara's ponytail working," says Gavin. "It had been dropped from the original because it just didn't work properly with all the acrobatic moves – it was more like she had an electric eel attached to her head that had a life of its own. But on *TRII* I came up with a way to get it working and was really pleased how natural it looked. The physics were ultra-simple and a complete cheat, but it did the job."

Other additions were far more substantial. Improvements to the graphics engine allowed for wide open outdoor spaces that hadn't been possible in the original game, and Lara was no longer restricted to travelling on foot. "Introducing vehicles was my idea, I'm quite proud of that," says Stuart. "I prototyped Lara riding a quad bike using only the animation editor – I replaced her run animation and attached a quad bike to her bottom – the in-game result gave you a pretty good idea how well it would work."

On the audio front, Nathan was able to make improvements as he was more involved in the development process. "With *Tomb Raider II*, I had a little more development time (about two months) and although I wrote twice the number of tunes, there was a plan in my head about how it was going to piece together," the composer recalls. "I expanded on the themes, establishing new motifs, but mainly focusing on this location-specific idea that had been born in the first game. The implementation improved as I demanded control on how and when each tune would be triggered."

One of the game's most memorable moments was actually born of the tight deadline. "The game was supposed finish after the dragon battle, but it didn't feel like a satisfying conclusion, so we came up with the idea of having an epilogue," Gavin explains. "Due to time constraints the idea of reusing Croft Manor was chosen, with just a pitch battle of Lara defending her home. Then my favourite bit – the 'shower scene' where we got Lara to shoot the player – that was our response to the enquiries about nude cheats!"

Tomb Raider II was another critical and commercial success, surpassing the sales of the original. Plans were set into motion for *Tomb Raider III*, but this time most of the original team opted to move onto a new project. "Knowing you were leaving a big-seller along with the royalty cheques felt a bit of a silly move," Stuart recalls, "but our team wanted at least two years to develop *Tomb Raider III* – to really move it on, but the producers wanted it done in a year. For those who had done that for two consecutive years already it was just too much."

Luckily, the expansion of the team during *Tomb Raider II* provided new blood to carry the series forward. "I was finishing up creating some (unused) multiplayer levels for *Fighting Force* when I heard they needed FMV help on *Tomb Raider II*, so I offered up my services, as I was starting to see multiplayer arenas in my sleep," recalls Andy Sandham, who would follow up this involvement with level design from *Tomb Raider III* onwards. "My task on *Tomb Raider II* was to blow up the Great Wall Of China, if I remember. That was my introduction to the time-honoured *Tomb Raider* tradition of the willy-nilly decimation of historical sites and the laissez-faire gunning down of endangered species."

Another newcomer to the *Tomb Raider III* team was Peter Connelly, who would stick with the series for the rest of the Core Design era. Like many of the newcomers, he was excited to be on the team. "My first real experience [with the series] was playing *Tomb Raider II*," remembers the musician. "I had bought it for someone for Christmas and we were playing it extensively on Christmas Day evening. What I remember most about this was wishing I was working on such a game. Nine months later, I was working at Core Design." Though his contribution to the third game was small, Peter would become the series' main musician from the fourth game onwards.

Tomb Raider III started to branch out into new areas, and particularly more action-oriented gameplay. The addition of sprint button was useful for outrunning enemies, and new enemy AI allowed for the bad guys to call for reinforcements and shut off rooms, necessitating a stealthier approach. Meanwhile, dangerous terrain additions were made including quicksand and water with deadly currents. The other big change was the addition



» [PlayStation] The rooftops of London are a dangerous place to be hanging around at night!

of a non-linear structure – while players started in India and finished in Antarctica, adventures in London, Nevada and a South Pacific island could be tackled in any order.

Upon its release in 1998, *Tomb Raider III* didn't fare as well as its predecessors, but remained an high-performing title all the same, shifting well over six million copies – meaning that another sequel was guaranteed for 1999. For Andy, that meant a new opportunity. "When Vicky (scriptwriter on *TRI-III*) jumped ship after *Tomb Raider III*, there was a gap to fill and I jumped into it, with a view to writing 'movie-style' *TR* games."

"For story, we'd choose our levels first – for our team, the first and most important part of any *Tomb Raider* game was the 'buying books on ancient civilisations' and phase, to cement ideas that would result in a rough plot that I'd have to shape into something coherent," Andy continues. "I was reminded the other day that the next stage after this would basically be the whole team queuing up at the office scanner, coffee table history books in hand, waiting to digitise our next level texture."

Tomb Raider: The Last Revelation introduced more of Lara Croft's history through a chapter showing a younger version of the protagonist on an early adventure with mentor/rival Werner Von Croy. Though it enjoyed a slightly more positive critical reception than its predecessor, *The Last Revelation* was perhaps the first real indicator that interest in the series was waning – it was the lowest sales tally for a *Tomb Raider* game so far despite the addition of the Dreamcast as a third platform. However, management was concerned about *The Last Revelation* for an entirely different reason.

As the fourth release in four years, it was inevitable that creative fatigue had set in during *Tomb Raider: The Last Revelation*. However, the way it was expressed was a shock to players around the world. "We all wanted to kill Lara," says Andy. "Looking at Lara's avatar all day every day for two years was about as much as some of us could take. Management were pretty hands off, so for two weeks, we hatched this plan to kill Lara, and followed it through to fruition." Indeed, the game ends with Lara entombed under a collapsed pyramid entrance, a dramatic and perhaps poetic end for the adventurer.

Of course, the team wasn't going to get away with killing the company's golden goose. "By 'fruition' I mean [Jeremy Heath-Smith, Core Design CEO] finding out we had killed her and it was too far gone to reverse it, and taking us into his office and shouting at us," Andy recalls. "We backtracked quickly, but not without paying penance by having to make another game set in all the ropey bits we had cut out of previous games, which became *Tomb Raider Chronicles*." In order to tie these pieces together, *Tomb Raider Chronicles* shook up ▶



» [PC] *The Last Revelation* is one of the most tomb-heavy games in the original quintet.



LARA'S BIGGEST FAN

We speak to Ash Kaprielov about his love of all things Tomb Raider



What was it about the *Tomb Raider* series that drew you in as a fan?
My teenage years were quite difficult, but *Tomb Raider* provided me an escape. The levels were so vast and challenging that it would take me weeks to finish a game, weeks where I could completely forget all my problems and explore ancient civilisations instead. When I first got an internet connection I started chatting with like-minded people and, since most of the forums were in English, it let me enhance my language skills. I met many of my best friends because of *Tomb Raider* and Lara gave me the courage to move to the UK on my own.

Tell us a little about your website, Tomb Of Ash
When I moved to the UK I decided to help my Russian colleagues at LaraCroft.ru, writing them a number of articles from various Expos. Then I interviewed Andy Sandham, a level designer and script writer for *Tomb Raider 3* to *Chronicles*. The interview was translated into Russian and I realised that I had nowhere to post the original English version of it. I uploaded it onto my personal Tumblr account, received some good feedback and decided to start my own website. I first ran it on my own, but then eventually brought my Croatian friend and fellow *Tomb Raider* fan Tina on to join me as a social media coordinator. [There is also] April and Tatiana, who produce various fan content. We actually helped Crystal Dynamics source interviewees for the *20 Years Of Tomb Raider Book*. Our latest achievement was the co-organising of the largest *Tomb Raider* 20th Anniversary celebration yet, hosted at PLAY Expo.

What's your favourite *Tomb Raider* moment?
My favourite moment happened on 8 October 2016 when Core Design took to the main stage at PLAY Expo. Their realisation that their work is still appreciated 20 years after the first game was out was incredible. I will never forget that day and the emotions that it stirred within me knowing that I helped make that day happen. I have been to many fan gatherings but the PLAY Expo weekend was probably the first time that I felt truly connected with the *Tomb Raider* fandom.



CREATING TOMB RAIDER

A retrospective interview with Toby Gard



Wasn't *Tomb Raider* originally a Saturn exclusive?

Core was in an exclusive deal with Saturn even when [*Tomb Raider*] came out. We were developing the Saturn and PlayStation versions simultaneously, but there was [a] time period that meant that Core wasn't able to bring it out on the PlayStation – it could only have been the Saturn. That was the exclusivity. Actually, it turned out better for PlayStation owners because there were a lot of bugs in the Saturn version. We found that out after it was released, and we managed to fix and tune up the PlayStation version a little bit before it came out, so it gave us a little bit of polish time…"

What challenges did you face making *Tomb Raider*?

It was all new to be honest with you, we were only a small team and none of us had done anything like it before. Every day was a new challenge. Obviously the coders there were superb to pull off *Tomb Raider* – both of the main programmers on the title had never even made a game before. It was pretty impressive.

Was Lara originally going to be a man?

When I very, very first pictured the game of *Tomb Raider*, it was from four drawings, and those four drawings were of a dude, an Indiana Jones-style dude, in a 3D world. When I began to write up the first design document, when I was working out exactly what the character design would be, there was a time when we were thinking about being able to choose from more than one. And so I designed a male and a female character. And then I realised that with the level of storytelling – I was going for a cinematic, movie-directed style – we would end up having to do double the amount of cinematic work, and that was somewhat more ambitious than we wanted to do. I'd already designed Lara and this dude, and I liked Lara more than I liked the dude, so she was the winner. That was that.

Did any films influence you?

There was a mixture of influences. One was the John Woo movies – I'd seen *Hard Boiled* and I wanted to get that in, I was so excited about that film – at the time it was just insane. I wanted to have that kind of dual-pistol insanity going on, with leaping and shooting and stuff. The other was *Æon Flux*. In one of the shorts, she's running around with Uzis, mowing down hundreds of people – and that was pretty exciting, I thought. So for me, it had to be that Lara was a dual-wielding action star, and that became an integral part of the whole costume.

What's the secret of *Tomb Raider*'s success?

Lots of different things, I suppose. It had a really unique character, it had some really memorable moments, it had some pretty clever level design, and it had a good solid platforming mechanic. It was based in the whole history scenario, which I felt was something that was very engaging. And it had a good story.

Interview extract taken from games™ issue 44

▶ the storytelling structure of the series – instead of a linear narrative focusing on a single adventure, the game was themed around Lara Croft's funeral. Gathered mourners recounted tales of her past adventures. By this point few additions were made to gameplay – Lara gained access to a grappling hook, as well as tightrope walking and the ability to swing from horizontal bars.

However, the *Tomb Raider* engine was beginning to feel very dated, as the yearly release schedule hadn't permitted significant alterations. What's more, the team that had seen fit to kill Lara Croft was still in charge and no happier with the situation. "That lack of enthusiasm showed in the final product," Andy notes with some regret. "The only person on the team that was still happy was Phil, the animator, who spent all day animating Lara being slaughtered in new novel traps and enemy attacks." When *Tomb Raider Chronicles* arrived in 2000, it was to the least enthusiastic critical response so far, and sales were drastically lower than those of *The Last Revelation* at just one and a half million copies. With a burnt-out team having pushed out five games in five years, it's fair to say that the original *Tomb Raider* model had been well and truly exhausted.

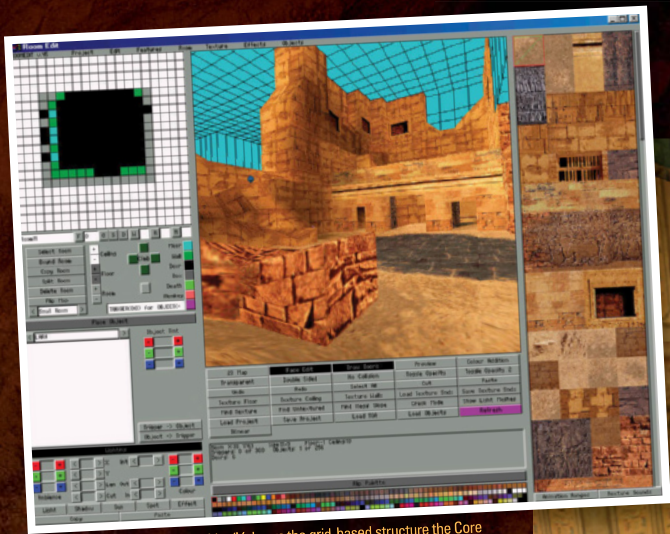


However, from the outside the series couldn't have seemed to be in a better position. Angelina Jolie had been tapped up to star as Lara Croft in a *Tomb Raider* movie, and there was a new hope for the games around the corner in the form of the PlayStation 2. With new technology, the team would have a chance to revamp the gameplay of the series. Stealth and hand-to-hand combat would play a big part in the new adventure, as would the new playable character, Kurtis Trent.

Along with the new technology came another set of new staff, with a hunger to work on such a huge project. "I was thrilled, daunted, overwhelmed (almost), delighted, panicked, hyper and exhilarated," recalls Murti Schofield, a writer who had joined Core from Psygnosis. "I was also determined to give this opportunity everything I could. This was a writer's dream. El Dorado. The Alchemists' stone. The Grail. The ketchup on the bun of life. So, how did I feel? Determined."

"My first experience of working on *Tomb Raider* was to be sat with a pencil and paper and to be instructed to simply draw out whatever ideas came into my head as long as they were Lara Croft-related," recalls concept artist James Kenny. "I had at that time zero experience of the game, film or television industries and had been recruited by Core Design straight from studying





» This level editor for *Tomb Raider IV* shows the grid-based structure the Core Design games were built on.



» [PC] Water areas played a large part in the *Tomb Raider* games, acting as a break from climbing.

animation in Ballyfermot Senior College in Dublin."

Initially, things seemed to be going well. "As with most games I've worked on over the years, there are usually delays and issues that contribute to stalling a release and, as *Angel Of Darkness* wasn't like the previous *Tomb Raider* games, i.e. they were released exactly one year apart, I wasn't that phased that things were dragging on," says Peter. Unfortunately, the combination of a large team, an over-ambitious design and a management structure ill-equipped to deal with the task quickly drove the project off the rails.

"The step up to the PlayStation 2 and the complexity that would engender was not properly envisioned by anyone at Core at that time," says James. "Also I think there was a desire to change the direction of the games in a narrative and gameplay sense and there was pressure coming from the developments in other gaming franchises." For Murti, the situation was extraordinary. "There was just so much that went wrong and the pressures were awful; I don't mean ordinary, standard industry pressures but the sense that the ship was slipping into the maelstrom and no one knew what to do. We knew things weren't going well. The game wasn't right. Deadlines kept breaking over our heads and still things were not right."

After many delays, *Tomb Raider: Angel Of Darkness* arrived in 2003 with much of the intended game design left on the cutting room floor. Despite selling two and a half million copies, it was given a critical kicking and is considered the lowest point in the series. With dissatisfaction rife amongst both fans and shareholders, Eidos took drastic action and removed *Tomb Raider* from Core Design. "As a board of directors, we did not take that decision lightly," explains Ian. "Core Design



» [PC] Ancient foes often wield powers that can barely be distinguished from magic.

"There was just so much that went wrong and the pressures were awful"

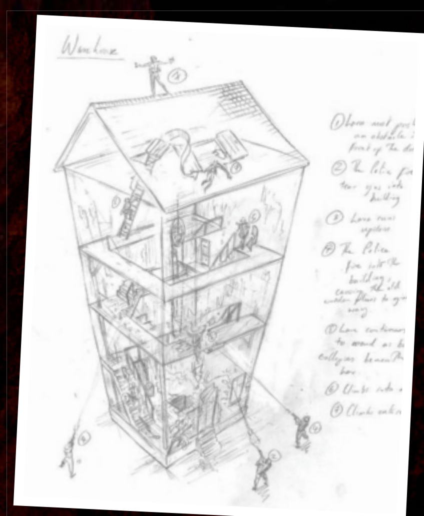
Murti Schofield

had done an incredible job in developing a new title year-on-year from 1996 to 2000. Then along came PS2 and with its new tech challenges which Core Design struggled with for too long. Instead of it being another hit in the series, *Angel Of Darkness* was not far short of a disaster when it came out in 2003. Sales were below expectation and development of *Tomb Raider* was moved to Crystal Dynamics. For a UK company, moving the development of its prized asset from Derby to California was a big decision to make but, as it turned out, absolutely the right one to make."

History has vindicated the decision – under the care of Crystal Dynamics, the series has returned to form critically and commercially. However, from an outsider's perspective it seems like a harsh decision, especially as Core Design had only produced one truly bad *Tomb Raider* game. Surely the tens of millions sales it had generated prior entitled Core to another crack of the whip? "Many on the development team at Core had enough. Some were burned out and wanted to work on new games. It was definitely time for change," Ian responds. "But nobody should ever take away or diminish the contribution that Core Design made in not just creating *Tomb Raider*, but making it an iconic franchise."

Murti agrees. "If Core had been given another chance would it have been different? Who knows," he ponders. "It would have required a restructuring of management practices and a shake-up – which seemed unlikely. And with the benefit of hindsight it *was* time for someone else to take Miss Croft's future in hand."

Over at Crystal Dynamics, the team had been working on the well-regarded *Legacy Of Kain* 3D ▶



» The concept art for *Angel Of Darkness* shows a stark absence of any actual tombs.



» [PC] Though planned as the first part of a trilogy, *Angel Of Darkness* marked the end of Core's *Tomb Raider* timeline.









» The concept art for *Anniversary* shows a new aesthetic design applied to the older ideas from Core Design.

“The dual pistols are part of Lara’s iconography, but focused on agility rather than brute force”

Noah Hughes

▶ action-adventure games for some time, but getting the *Tomb Raider* job was a big shock. “For us, there was a sense of, ‘Oh my gosh!’ *Tomb Raider* was such a big franchise with so many fans – if we want to take something like that on, we’d have to do it so right, so it felt very much like a high-stakes proposition” recalls Noah Hughes, creative director at Crystal Dynamics. “But it came up more as an opportunity, with Eidos saying, ‘Hey, would you guys be interested in working with this character?’ From that perspective it was exciting, as it fit comfortably with our desire to create experiences that blended a lot of stuff – environmental exploration, combat and puzzle-solving.”

In developing *Tomb Raider: Legend*, the first game of the Crystal Dynamics era, it was important for the team to establish which aspects of the existing games they wished to retain. “Lara’s intellect and puzzle-solving, we wanted to keep both of those,” Noah offers as an example. “Additionally we felt that traversal and exploration were important, these platforming elements – how could we provide a traversal toolset to make the world a jungle gym? And, of course, the sense that around each corner there might be a surprise, even the less noticeable corners could hold a secret. Also a combat system of sorts, the dual pistols are part of Lara’s iconography, but focused on agility rather than a brute-force flavour of combat.” There was one more significant element that the team homed in on, too. “We called it ‘flair’ at the time – things like the handstand, so you could express yourself as a character with moves that weren’t critical to progression.”

During the *Tomb Raider: Legend* era, Meagan Marie was just a fan of *Tomb Raider*, but today she is Crystal Dynamics’ community manager for *Tomb Raider* and the author of the official history guide, *20 Years Of Tomb Raider*, giving a unique perspective on the development of the series. “I love Keeley Hawes [as Lara] especially, I love how quippy and sarcastic she was – she might be one of my favourite voice actresses,” she notes. “I also enjoyed the fluidity in combat, the acrobatics – that’s something that Crystal Dynamics pushed as a way to differentiate itself from Core and leave its mark on the franchise. Moving away from the grid-based movement and moving towards very fluid traversal, fluid combat, and that was something I remember being very impressed with.”

In order to make sure the team got things right, Toby Gard was brought into the fold as a consultant. “It was great to have Toby because he was so intimate with her design, and it gave us the ability to be a bit more bold as we explored different options, but we had insight as to where we were losing that core DNA,” Noah explains. “So from a character design perspective he was a great resource, and he became very involved in the story – I’m not sure if he has a writing credit, but I know he and Eric Lindstrom worked closely together. We were trying to bridge two canons, the Core games and the movies which had gained popularity, so it was another case where having Toby’s insight into what was ‘evolving’ versus what was ‘breaking’ was important. Even to this day I’m grateful for having that overlap with Toby, because it gave us insight and the confidence to find our way without completely copying and pasting.”

The results were an immediate vindication of the decision to go with Crystal Dynamics. The critical reception and sales of *Tomb Raider: Legend* were a marked improvement over the last couple of games, with four-and-a-half-million copies sold. That success ensured that two follow-up titles went into production, and Crystal Dynamics began to focus on the past, present and future of *Tomb Raider*. Although it didn’t seem necessary at the time, Lara Croft’s reinvention was going to become important.

That’s something that the team at Crystal Dynamics recognised a lot earlier than most people realise,” reveals Meagan. “After finishing Legend the team split, and a small team took *Tomb Raider: Anniversary* and another took *Tomb Raider: Underworld*, and started working on that, but there was also a small group that was two



» Lara's overall design was overhauled for the first Crystal Dynamics game.

people for a couple of years who sat and ideated the future of the franchise, Jason Botta and Tim Longo, before even entering preproduction. They knew that after *Underworld*, which would be considered the end of a trilogy, that something major needed to be done. They recognised after a while of exploration that an origin story made the most sense, and that letting the players see those moments where Lara was forged into the *Tomb Raider* would make her more relatable."

Of course, this reboot was many years away, and the two other projects would arrive sooner. The first of these was *Tomb Raider: Anniversary*. This was in competition with Core Design's final attempt to design a *Tomb Raider* game along a similar premise, though neither team necessarily knew that the other was in the running. Where Core had focused on the PSP, Crystal Dynamics had a multi-platform strategy that ultimately got the nod from the publisher. The resulting game was a loose remake of the original *Tomb Raider* in the new style. However, despite strong critical performance, good reviews didn't transfer into exceptional sales and it remains the series' commercial low point.

For the larger team, *Tomb Raider: Underworld* was Lara Croft's first step into another new generation, this team targeting the Xbox 360 and PlayStation 3 as lead platforms. "One of the things we did with *Underworld* was that we ended up pushing the technology," recalls Noah. "We had full ▶



» [GameCube] Cinematic scenes were just as important to the Crystal Dynamics games as Core Design's efforts.



BY THE NUMBERS

The sales and Metacritic scores from the main series

Game	Year	Sales	Score
TOMB RAIDER	1996	7.5 MILLION	90 %
TOMB RAIDER II	1997	8 MILLION	83 %
TOMB RAIDER III	1998	6.5 MILLION	78 %
TOMB RAIDER: THE LAST REVELATION	1999	5 MILLION	79 %
TOMB RAIDER CHRONICLES	2000	1.5 MILLION	70 %
TOMB RAIDER: ANGEL OF DARKNESS	2003	2.5 MILLION	56 %
TOMB RAIDER: LEGEND	2006	4.5 MILLION	82 %
TOMB RAIDER: ANNIVERSARY	2007	1.3 MILLION	81 %
TOMB RAIDER: UNDERWORLD	2009	2.6 MILLION	76 %
TOMB RAIDER	2013	8.5 MILLION	86 %
RISE OF THE TOMB RAIDER	2015	1 MILLION (SO FAR)	87 %



» Here's a piece of early concept art taken from *Tomb Raider Underground*, the third game in the series Crystal Dynamics worked on.

motion-capture actors rather than animation, which we hadn't done in the past, but we ended up with a similar moveset. But in some ways, the gameplay didn't move as far forward as the technology did." Indeed, *Tomb Raider: Underworld* did better upon its release in 2008 than *Anniversary* had managed, but it still didn't live up to the critical or commercial performance of *Tomb Raider: Legend*. Fortunately, the aforementioned foresight of the team meant that new plans had been laid for a reboot.

"We wanted to make sure we weren't falling into a 'myth of the week' pattern – we wanted to make sure our stories were character defining and not just adventures to go on," recalls Noah. "We had also gotten feedback that Lara as a character didn't feel fresh to people, so there was a sense that there could be audience fatigue or a lack of relevance to her as a character, so we took the goal of evolving gameplay and invigorating her character story, but also making sure that on top of all of that, we were recreating a relationship between the character and the audience."

For the first time, we saw Lara Croft not as an adventurer, but as a newcomer to exploration whose experiences would test her very will to survive. "Part of the unrelatability of Lara was that because she had infinite money and was so skilled, of course she was going to win. We felt that we had to place her in a situation where she had to earn her success, and isolate her from the support that she had, to make you believe that she could lose a battle." This led to the introduction of survival mechanics, as well as character development through an experience system.

The reboot, simply named *Tomb Raider*, managed to take cues from popular action-adventure games, like the *Uncharted* series, while retaining the feel of a 'Lara Croft' adventure. The approach worked well, as the game earned a fantastic reception – the reboot became the bestselling game in the series, with over eight-and-a-half million copies sold to date.

A follow-up was inevitable, and the pressure was on following the previous game's high sales. "It's always terrifying to have that amount of success, and we wanted to make sure it wasn't a fluke," Noah confides. "We looked at it as a challenge of how we figure out how to improve on that." *Rise Of The Tomb Raider* charts Lara Croft's growth in confidence following the events of the reboot. "In *Tomb Raider* you look at Lara's transition from being an explorer interested in the world to someone forced to survive," notes Will Kerslake, lead designer at Crystal Dynamics. "In *Rise* we continue that process, but we also see her choose to go on an adventure, so her character continues to evolve."

One of the things that the team was keenly aware of was the need to include more tombs for players to explore. "We did fill [the setting] with history," Noah



» [PC] Croft Manor is burning! What has caused Lara's home to end up in such a state?



» [PC] Combat now typically takes place using an over-the-shoulder perspective, as is common today.

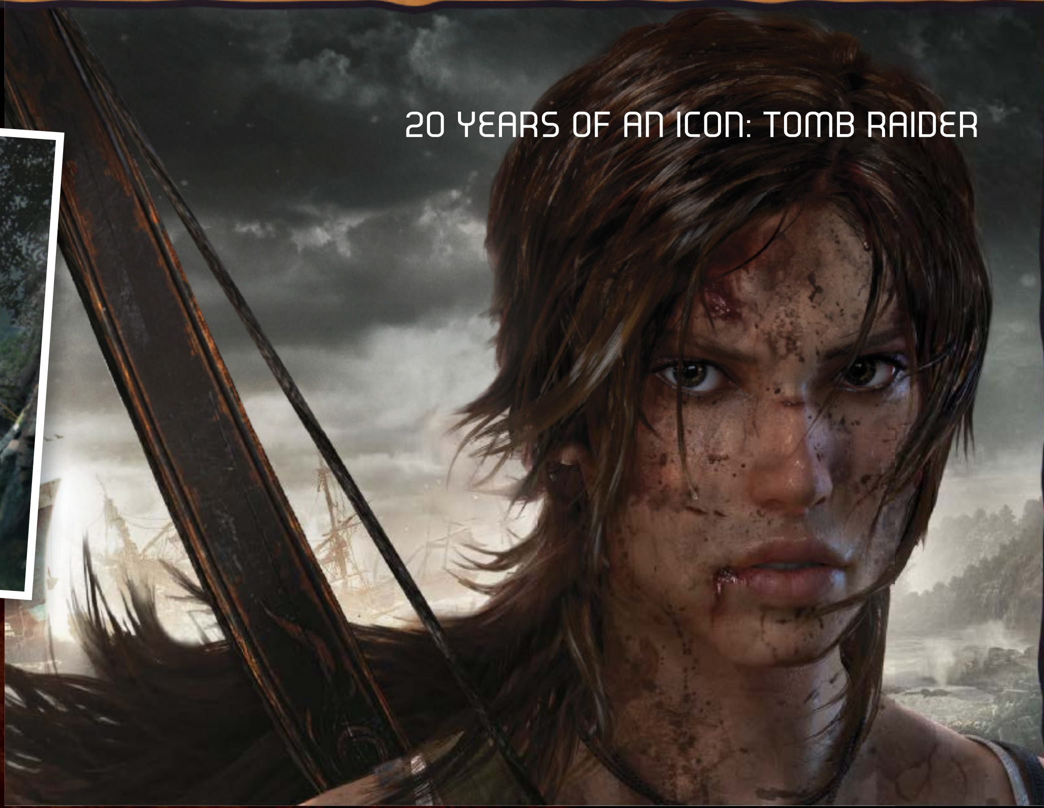
LOVING LARA

We asked you which iteration of Lara Croft was your favourite





» Production art showing off the parachute sequence from Crystal Dynamics' 2013 *Tomb Raider* reboot.





recalls of the 2013 game, "but those layers were, for example, World War II, so they told stories a week before Lara got there, 50 years before Lara got there, and hundreds of years before she got there. But what we found was that because they weren't ancient places with ancient secrets, they weren't scratching that itch entirely." *Rise Of The Tomb Raider* initially launched on Xbox One, Xbox 360 and PC in 2015, and has recently launched on PlayStation 4, to a very positive critical reception that narrowly edges that of the 2013 reboot.

In many ways, Lara Croft's transformation into a survivalist is a fine way to represent *Tomb Raider*'s journey. From a starting point of fame and fortune, the series has had to adapt to survive against a backdrop of sweeping changes in game design and consumer tastes, as well as the occasional misfortune. Against all of that, the people behind *Tomb Raider* have reinvented it over the course of two decades to remain one of the world's most beloved brands, and Lara Croft stands alone as the icon representing that monumental effort.

Indeed, the future looks bright – the Crystal Dynamics team won't speak of any future plans just yet, but with audiences still discovering *Rise Of The Tomb Raider*, an ongoing comic series and a new movie in the works, it's fair to say that Lara Croft is perhaps just as popular as she ever was. "Lara has transcended gaming in a way that I think no other character has – because of the movies, because she was considered a virtual model for a while – so I think she does hold a unique place in gaming history that I don't know if any other character could compete with," concludes Meagan – and it's very hard to disagree with her. ★

Special thanks to Ian Dickson, Ash Kaprielov, Alex Verrey and the organisers at replayevents.com for making this article possible.



» [PS4] *Rise Of The Tomb Raider* is one of the first games to benefit from the additional power of the PS4 Pro.



CLASSIC MOMENTS

Barbarian: The Ultimate Warrior

» **PLATFORM:** COMMODORE 64 » **DEVELOPER:** PALACE SOFTWARE » **RELEASED:** 1987

I was 14 years old when *Barbarian* was released and no stranger to onscreen violence. I'd seen a man's head get split in twain whilst watching *The Sword & The Sorcerer*, witnessed the decapitation of an old Sean Connery in *Highlander* and discovered what happens to Kevin Bacon's throat when it gets pierced by an arrow in *Friday The 13th*. Now admittedly, I watched most of these brutal dismemberments through splayed fingers, but I watched them nonetheless

Although I'd been often privy to film violence I'd never really witnessed anything as graphic when playing videogames. Needless to say, I wasn't prepared for the sheer amount of gore in Palace's brilliant game, and I certainly wasn't expecting to be able to cleave someone's digital head from their pixel perfect shoulders. That's exactly what happened, though and it was an amazing jaw-dropping experience. As you can imagine, once I'd worked out how to pull off that devastating, life-ending move I did it again and again and again. *

BIO

Originally created for the C64, Palace Software's epic hack-and-slash courted controversy at every turn, immediately endearing itself to many gamers in the process. *Barbarian* immediately came under fire on release thanks to its suggestive box art, which featured a bikini-clad Maria Whittaker, and that guy who would later play Wolf in *Gladiators*. Typically, the media at the time was more fixated on Whittaker's breasts rather than the graphic content featured within the game, allowing Palace to ride a wave of success in the UK, which sadly wasn't replicated when the game was released stateside under the name *Death Sword*.



MORE CLASSIC BARBARIAN MOMENTS

Heads Up!



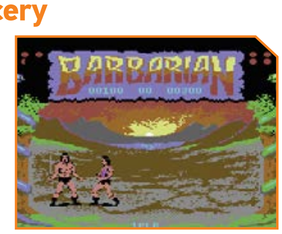
As satisfying as it was to cleave an opponent's head from their shoulders, what happened afterwards was nearly as entertaining. A grotesque and diminutive goblin entered from the left, stopping only to laugh as he grabbed your defeated foe. Upon reaching the severed noggin, he gave it a mighty boot, causing it to fly off the screen, bouncing along the way.

I'm A Highlander



My biggest regret about *Highlander* was that the videogame that accompanied it was absolutely dreadful. Step forward *Barbarian*, with its swords-based combat nicely filling in for Ocean's turgid official effort. Granted, your character looked nothing like Connor McCloud, but that's what your imagination was for and it was easy to pretend you were reliving one of the coolest films around.

Shrugs And Sorcery



Even though *Barbarian* was a, well, barbaric gaming experience, Palace Software still found time for the odd piece of humour. One of the best examples happened when you left the game idle. As your barbarian stands his ground awaiting your input he eventually turns to face the screen, mouthing at you and shrugging his shoulders. It's funny until you get chopped in the face…

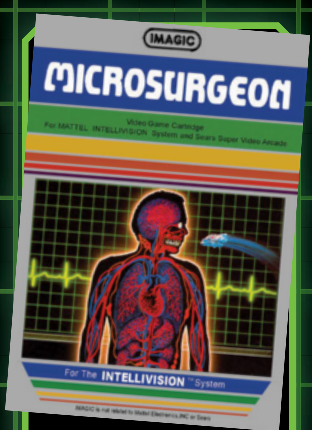
Clash Of Swords



The obsession with martial arts fighting during the Eighties meant *Barbarian*'s swordplay felt revelatory at the time of its release. As good as punching someone in the face was, it was nothing compared to whacking them on their bonce with a sword. The sound effects played their part, too, with the clanging of steel on steel sounding just as satisfying today as it did in 1987.

MICROS

Despite it being often seen as a failure, Mattel's Intellivision console spawned a number of complex games. Graeme Mason speaks to the man behind one of its finest and most idiosyncratic simulations…



IN THE KNOW

- » **PUBLISHER:** IMAGIC
- » **DEVELOPER:** IMAGIC
- » **RELEASED:** 1982
- » **PLATFORM:** INTELLIVISION, TI-99/4A
- » **GENRE:** SIMULATOR

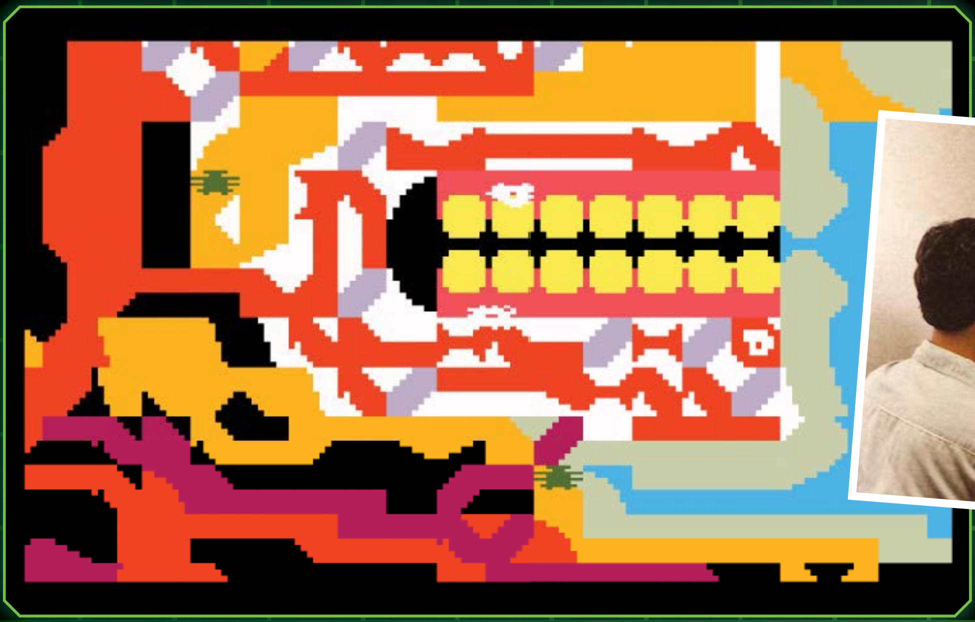
When the famous toy producer Mattel created its electronic department in 1976, it set in motion a chain of events that would lead to the creation of the Intellivision console. The newly-formed division first began creating handheld games, some of which were designed by Richard S Levine. "I joined Mattel in 1978," starts Rick, "and for the first few months worked on handheld games, reworking some *Hearts* code for the Gin device, and also coding *Handheld Bowling* and *Look-Alive Baseball*." After designing and coding *PBA Bowling* for Mattel's new console, Rick departed the company in 1980 and eventually joined developer Imagic. "When I interviewed for the job at Imagic, I discussed my idea for a surgical game with Brian Dougherty, who had also previously worked at Mattel," he explains. "He liked the idea, hired me, and I went to work on it straight away." As a former pre-med student at UCLA, the young games designer was in a unique position to propose a game based around a medical emergency.

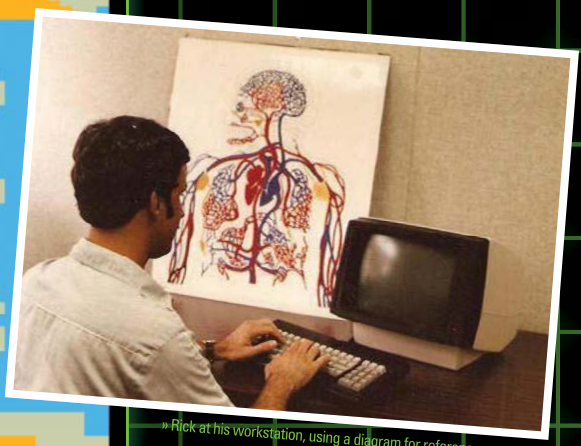
"I spent my first two years as a pre-med student until I discovered that I enjoyed and excelled at chemistry and physics theory more than laboratory work," Rick explains. "I changed to a math major, but never forgot my interest in medicine." After leaving Mattel, Rick worked briefly at Coopervision, a medical electronics company located close to the UCLA campus. "Coopervision developed medical diagnostic equipment for ophthalmologists – eye doctors. As part of my job, I spent a day at a hospital talking to doctors and seeing them perform cataract surgeries. That was fascinating, and a big influence on me in later wanting to share that experience with videogame players."


» [Intellivision] The procedure begins at the patient's eyeball.

In *Microsurgeon*, the player takes on the role as a member of an elite team at the Xenon Medical Centre – and things are about to get *very* hectic. A tanker, laden with an unspecified hazardous material has crashed, and deadly fumes are breathed in by dozens of people. Tar deposits, tumours and infections are beginning to spread at an alarming rate among the infected, and the only hope of saving them is via microsurgery using a device called the robot probe. "While I always knew that there were going to be many different patients in an emergency situation, I did not create the backstory," Rick admits. "The instruction writer was involved in that. I did read and discuss the instructions with the writer and provide feedback before they were approved, so I knew what the plot would be at that point." The coder was fully focused on *Microsurgeon*'s technical design, although that underwent some major changes. "I spent a couple of months developing a prototype which worked in first-person view," recalls Rick of the game's initial version. Predictably, the technology of the time struggled to realise his vision. "The first-person view had two issues: first, the graphics were blocky, so you couldn't do 3D, and the limited number of sprites and colours made it difficult to fill the screen with enough action as you travelled through the blood stream. Secondly, and perhaps the most

URGEON





» Rick at his workstation, using a diagram for reference.

» [Intellivision] The doctor has better things to do, but those teeth look they could do with some whitening.

important reason, it was very easy for the player to lose perspective and get totally disorientated."

Rick's solution was a more traditional style of graphic display. The top-down viewpoint, essentially a side-on map of the human body, made it simpler for the player to negotiate the colourful – if still blocky – maze. He explains, "But because the Intellivision was pretty good at animating scrolling blocks of graphics in the background, I could have both sprites and animated block graphics to fill the screen, with varied movement and a number of targets for the player." For its gameplay, Rick employed resource management techniques, influenced by his background in mathematics. At the start of the game, the player is shown a status chart of the patient's entire body, with conditions varying from 'good' to 'critical'. The robot probe is armed with three different treatments against the multiple ailments: ultrasonic rays, antibiotics and aspirin. Use of the correct cure, plus avoiding the roaming white blood cells, is key as the probe only has limited power. "I think [the resource allocation] worked very well, having the player deal with many medical issues at once," says Rick. "I gathered up a number of anatomy textbooks and figured out which pictures had the kind of look I wanted. I discussed it with Michael Becker [head of Imagic's Art department] and he came back a couple of days later with a beautiful drawing, which was somewhere between the cover of the box and the graphics in the game."

Microsurgeon's graphics were designed by Rick, using his own art tool. "It was quite a challenge, but I think I captured the essence of what Michael had sketched out. Ultimately, I had to use compression to get all the graphics to fit into the cartridge – I don't think many console games had used compression before 1982!" The results were certainly different; *Microsurgeon* had a look like no other game of the time. And as befitted Rick's background, the game was infused with a semi-realistic approach to anatomy. "I was interested in teaching players a few things about anatomy and I think lots of people got that.



DEVELOPER HIGHLIGHTS

DEMON ATTACK (PICTURED)
SYSTEM: VARIOUS
YEAR: 1982

ATLANTIS
SYSTEM: VARIOUS
YEAR: 1982

TRUCKIN'
SYSTEM: INTELLIVISION
YEAR: 1983



» [Intellivision] Stray outside the veins for too long and the body's white blood cells soon arrive and attack your robot, reducing its power.

The game was marketed as 'edutainment' when hardly anyone knew what that word meant. A couple of universities even used *Microsurgeon* to educate junior high school students on various aspects of heart and lung disease, especially as they often relate to smoking." This realism, coupled with the relatively complex nature of the game – players had to figure out the most economical paths to get to each area and prioritise accordingly – must have worried its designer, given most gamers were dieting exclusively on arcade clones and maze games? "Intellivision games tended to be more in-depth – more like a computer game – than the other console games of the time," replies Rick, "but since Imagic had testers coming in every day to give me feedback, I was able to make modifications that made it easier to get into the game. While I wanted to have the parts of the body in generally the right place, the main thing was to have great gameplay and colourful, exciting graphics."

The development of *Microsurgeon* was relatively painless for Rick. "We had a nice system for debugging at Imagic," he laughs, "although as we did everything in assembly language back then, testing was always a big issue. Fortunately, I was able to find repeats and patterns in the graphics that compressed it enough." The coder also planned more work on the heart, only to fall foul of the curse of cartridge capacity. "There wasn't any code or graphics space left to program what I wanted – so we just made it so the heart beats faster sonically as a signal to the player that they are in danger."

As an employee of Imagic, Rick's chief role was game design engineer, and as mentioned above, he designed his own graphic tool which was then used on other Imagic titles. "We were always called on to do other things. I developed 'Da Vinci' for Intellivision prototype development and participated in interviews, appearing on BBC radio and several other [outputs]. I

> "I never expected that I'd still be getting fan mail 30 years after [Microsurgeon] was released"
>
> Rick Levine

thoroughly enjoyed giving high school students a tour of Imagic one day." Back in the coding department, Rick completed a conversion of *Microsurgeon* to the TI 99/4A. "The processor and graphics chip in the TI 99/4A were nice for the time, but I still had to develop an engine to get the game sprites, scrolling, collision detection, and graphic tiles to work like they did on the Intellivision. It was also fun to add speech to the game."

Recently, *Microsurgeon* has found fame thanks to cocreator of the hit television show *Game Of Thrones*. D.B. Weiss's debut novel, *Lucky Wander Boy* is the story of Adam Pennyman and his obsession with the videogames of his youth. Appearing in a chapter concerned with the death of his grandmother from cancer, Weiss weaves details of her illness with the game's concepts. "It took me a while to get around to playing *Microsurgeon*; I was still infatuated with *Astrosmash*," writes Weiss. "When I finally did get around to playing it, I was taken aback by its complexity. Power, brains, antibiotics, tumours, lymph ducts, tapeworms; it was a lot to think about all at once. But I kept at it, fuelled by morbid, obsessive tendencies, and finally got the hang of the game with patient #23… the following day, my mother took my grandmother to Presbyterian St. Luke's Hospital for a check-up, where the doctor told her that the chemo was working. Her cancer had not retreated, but it had not advanced either." Rick smiles when we remind him of the extract. "I found that out in 2003. He told me he loved playing *Microsurgeon* growing up and that it helped feed his imagination. It was only years later when he looked up

STAYIN' ALIVE

Nine tips to keep that body poppin'



HEART

■ While it has no direct threats, cholesterol in the body's arteries must be regularly eliminated in order to keep the heart pumping.



LUNGS

■ The lungs are swiftly plagued by black tar spots and these can be zapped away with the ultrasonic ray. Don't forget that there are two lungs!



BRAIN

■ The grey spidery masses in the brain are deadly tumours and they can deteriorate its condition in no time. Use the ultrasonic ray wisely.



GALL BLADDER

■ These orange-brown lumps are gall stones, and not dealing with them in good time will cause the poor patient a lot of distress.



INTESTINE

■ Tapeworms are the menace here, obviously, and they must be destroyed, and quickly – you can do this by using the ultrasonic ray.



KIDNEY

■ Like the gall bladder, the kidney is prone to build-up of hard material, in this case calcium and uric acid. Use the ultrasonic ray to clear them out.

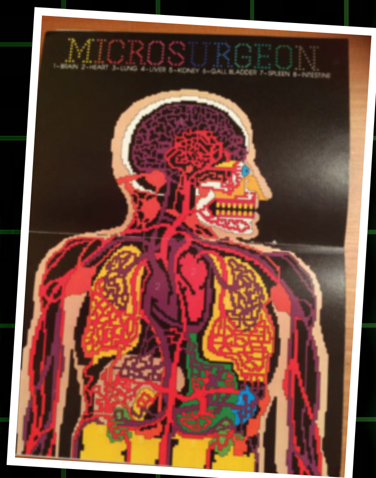
the *Microsurgeon* manual that he realised the fictional contact at *Microsurgeon* headquarters was one Dr. Weissblut. Fun coincidence!"

M*icrosurgeon* remains an original concept today and is stunning for its time; its artwork has appeared on the cover of both magazines and music albums. How does Rick feel it stands among his other games? "I think it was my best game, and I am very proud of it. I never expected that I'd still be getting fan mail 30 years after it was released. And one of the great things I learned programming *Microsurgeon*, was how much you could say with just a few thousand bits of code." Today, Rick's game is recognised as one of the first related to health, and was also nominated into an "Art Of The Videogame" exhibit at the Smithsonian back in 2012. "I love that others have enjoyed the game enough to put the graphics on the cover of two music albums," concludes Rick, "and I think it has held up well, and compares favourably to the other medical simulation videogames that have come along since. Ultimately, considering the limitations back in 1982, *Microsurgeon* captured the look and feel of surgery that I had wanted to bring to games since that day of watching ophthalmic surgeries back at the hospital." *

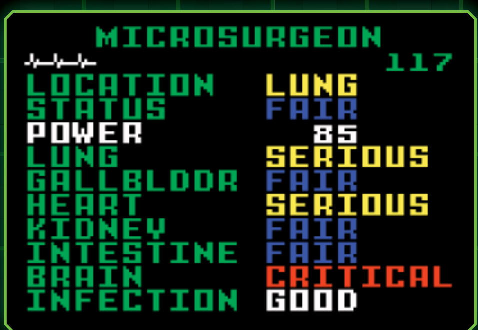
Our thanks to Rick Levine for his time.



» Rick proudly holds a sample of the *Microsurgeon* artwork back in the Eighties.



» A helpful two-page diagram of the body was included in *Microsurgeon's* manual.



» [Intellivision] As the infections build up, the player must work strategically in order to combat the illnesses in the most economical way.



PHAGOCYTES

■ Phagocytes are the body's defence system against foreign particles – you! Avoiding them is preferred, but they can be destroyed if they get too close.



VIRUS

■ Viruses appear all over the body as small green humanoid shapes. They travel speedily across the body and are despatched using aspirin.



BACTERIA

■ The insectoid bacteria, like viruses, appear throughout the patient and are disposed of with antibiotics. They don't move, but are plentiful.

FANTASTIC VOYAGE

Eight more examples of games that took you under the skin

FANTASTIC VOYAGE



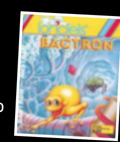
■ The 1966 Raquel Welch film initially debuted on the Atari 2600 and Atari 8-bit as a vertically-scrolling, *River Raid*-esque shooter. Two years later, Quicksilva brought the movie to the ZX Spectrum and Amstrad.

MICROCOSM



■ Making its debut on the Mega-CD, this FMV-heavy game combined the style of *Descent* with *Fantastic Voyage*'s body theme. It looked great, but it was limited in terms of actual interaction, like many FMV games.

BACTRON



■ This isometric interpretation of *Fantastic Voyage* was created by French publisher Loriciels. Playing the eponymous collection of antibiotics, it was your task to repair enzymes infected by a virus.

NEW ZEALAND STORY



■ Ever been eaten by a huge whale? *The New Zealand Story* played out that very scenario with one of its early bosses. The only way to defeat the blubbery mass was to jump inside and shoot away while avoiding its acid.

GUTZ



■ A huge monster is heading towards our planet, and, having been swallowed alive, the player must shut down its vital organs in order to escape and warn Earth. A graphically neat game that lacked variety.

MICROBOT



■ Released on Xbox Arcade in 2010, *Microbot* is similar to *Microsurgeon* in that the player controls a tiny robot and must cure a body of its ailments. There's even a multiplayer mode included.

SPACE QUEST VI: ROGER WILCO IN THE SPINAL FRONTIER



■ The final game in this series has Roger Wilco shrinking down and entering the body of his girlfriend in order to save her from the evil crone Sharpei.

PREY



■ *Prey* takes place almost exclusively on a giant alien ship known as The Sphere, actually an organic life form that harvests worlds of the matter it plants many centuries earlier. Lovely.

Missile Command

» DEVELOPER: Atari Inc. **» YEAR:** 1980 **» COST TODAY:** £800+

Before the advent of JAMMA, arcade cabinets were a work of art. Bespoke-built and typically created from the best components, many arcade collectors consider them to be works of art in their own right, on par with the very games that they lovingly housed. *Missile Command* is one such cabinet, a tremendous piece of design that's built around an incredibly important trackball that enables you to defend the earth against a deadly onslaught of never-ending missiles.

Created at Atari Inc. when the Cold War and the fear of nuclear holocaust was at its height, Dave Theurer took a nightmare he had experienced and turned it into one of the most addictive arcade games of the golden era. *Missile Command*'s weighty trackball allowed for both precise control and speed, which enabled the player to perform feats of skill that just weren't possible on a standard joystick. Another interesting aspect of *Missile Command* was that its three fire buttons represented separate guns, meaning you'd want to fire specific ones depending on where incoming missiles were heading.



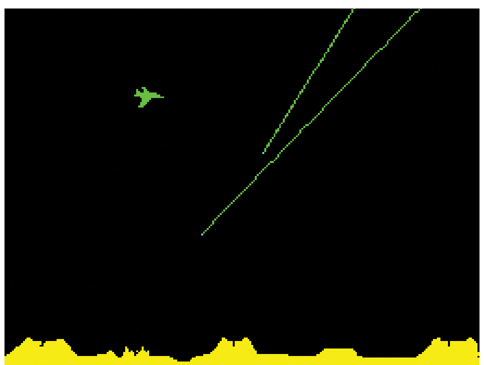




Missile Command fact

■ Tony Temple, whose cabinet is featured here, caused great upset in 2006 when he obliterated Roy Shildt's 20-year plus record with a score of 1,967,830 in Tournament Mode.

STANDOUT MOMENT **Plane Strike**



Missile Command is one of the most intense arcade games around and there's very little time to catch your breath. Each missile silo only has a set amount of ammo, so you just can't shoot willy-nilly as you run the risk of a stray missile getting through your defences and affecting your final bonus score. Needless to say, being able to take out the fast-moving planes that occasionally appear on the screen becomes tremendously satisfying, particularly if you can take it down with a single shot.

CA

The Eighties were alive with the sound of gunfire, with one-man-army games popular with wannabe Rambos. Martyn Carroll reveals all you need to know about Cabal, one of the more inventive war shooters from that period

When it became clear in the Eighties that official home versions of coin-op games could comfortably outsell original titles, publishers raced to license as many arcade properties as possible. In Europe the big coin-op hits of the day were all acquired by the likes of Ocean, US Gold, Elite and Domark – with widely varying results, as you'd expect. But publishers didn't stop there and the ensuing rush for rights led to many lesser-known titles being snapped up, too – games such as Namco's *Metro-Cross*, Tecmo's *Rygar*, Capcom's *LED Storm* and Taito's *Plotting*. For these more obscure titles the discovery process often worked in reverse, with gamers experiencing the home versions *first* and then seeking out the original coin-op.



» [Arcade] *Cabal* could be played solo, but it was clearly designed with two-player co-op in mind.

Cabal will surely be one of these titles for many people, with Ocean's home computer versions and Rare's NES release being the first time they encountered the game around 1989/1990, more than a year after the game first appeared in the arcades. The coin-op was the low-key debut from TAD Corporation, a Japanese developer that was founded in 1988. The game wisely riffed on the kill-'em-all theme that was more popular than ever thanks to Taito's *Operation Wolf*, but unlike that game *Cabal* was not housed inside a massive, crowd-pleasing cab. Instead it would likely be found further back in the arcade, inside a generic-looking cabinet that was easy to overlook.

Yet *Cabal* was a game that deserved closer attention – and a credit or two – as it offered up some novel twists on the typical war-themed shooter. One or two players were positioned at the bottom of the screen and they had to destroy wave upon wave of armed forces, including soldiers, tanks, helicopters and so on. Curiously, you controlled both your soldier (who could move left or right, to dodge enemy shots) *and* their crosshair (which could move in eight directions). When moving your soldier the crosshair would track in the same direction, and when

BAL



» [Arcade] The game certainly wasn't shy when it came to blowing stuff up.



» [Arcade] When diving you could not be hit, making it a very useful evasive manoeuvre.

DEVELOPER Q&A

Anthony Ball recalls coding the NES version of Cabal for Rare



How did you land the conversion job?

I was working with John and Ste Pickford at Zippo Games which became Rare Manchester. I was originally coding a demo of a NES art program using the yet-to-be-released trackball. For some reason that was cancelled, then a *Cabal* arcade machine arrived soon after and I was offered the chance to do the conversion. The NES version of *Cabal* should actually detect the trackball and play more like the original arcade game, which also used a trackball for movement.

So you had a *Cabal* cab to base your version on?

Yes we had access to the machine, but we didn't have access to source code, sound or graphic files. The coin-op had to be played over and over and the graphics drawn from memory by Lyndon Brooke. I liked the original game, at least the technicalities of it, but it got a bit boring after playing it so much in a short amount of time.

How long did it take to code?

By today's standards the project was pretty rushed – in the old days an arcade conversion typically took between three and six months. The game was written in assembly, while the sound was created at Rare in Twycross, so until the audio arrived I had no idea how much it would slow the game down by and how much of the cartridge it would use up.

What would you say was the biggest technical challenge you faced?

The challenge was including all the levels from the arcade machine and squeezing them onto a NES cartridge. The game had multiple layers so the buildings fall down and sprites can move behind buildings too. I used the old eight-sprites-per-line trick of swapping the sprites from left to right every other video frame so that if eight were on a line they would flicker momentarily. At 60Hz it doesn't look too bad and is better than them disappearing entirely.

Were you happy with the final game?

I'm happy with the final game. I don't like games that are too easy so I tried to capture the difficulty of the original arcade machine and I think it does that – people find it challenging. It has all the levels, enemy types, planes, helicopters and all the end-of-level bosses that the original arcade machine had.

Did the Stampers review the game during development? How did they compare to the Pickfords?

I can't remember if the Stampers reviewed the game, but I assume so – they were hands-on with everything at Rare. Both sets of brothers are obviously very creative and have created ground-breaking games. I might be biased towards my friends, but I prefer John and Ste Pickford because they are still making games. They are not doing this for the money – they just love making games that people like to play.

PLAYING TIPS

Some helpful advice to prolong your tour of duty



TAKE COVER

■ Pretend it's *Space Invaders* and hide behind the defences at the foot of the screen. Try and draw enemy fire into open areas in order to protect the defences, and be sure not to aim too low and accidentally destroy them yourself!

DEMOLITION JOB

■ Destroying buildings and other structures not only rewards you with bonus items, but also clears the way and provides a clearer view of the battlefield. But don't waste precious grenades on structures: use the unlimited ammo from your gun instead.

MIDDLE GROUND

■ The best position is the centre of the screen as you can freely move to the left or right to avoid enemy fire. Either corner may seem like a safer option, yet this restricts your movement as you can only move one way when under fire.



BOTTOM UP

■ It's the soldiers that get up close and personal you need to take out first, as the closer they are the more difficult it is to avoid their shots. Don't forget also that as a last resort you can shoot their shots out of the sky.

SOLDIER GREY

■ The grey, grenade-slinging sergeants often reward you with bonus grenades when shot. Plus, if a couple of medics arrive to stretcher them off, shoot them too! You can't kill them but they will drop one or two more grenades.

ACT FAST

■ To complete a stage you must fill the 'foe' meter by defeating the required number of enemies. However, if you mess around for too long trying to leech points, you'll get hit by bombs, and that's almost impossible to survive.

▶ firing he'd stop and you had precise control over the crosshair. It sounds painful, particularly as the game was designed to be controlled by a trackball of all things, but it actually worked pretty well. The analogue controller had a bearing on play as the faster you spun the quicker your man and the crosshair moved. You could also perform a sideways roll which afforded a fleeting moment of invincibility from enemy fire.

This roll move highlighted one of the issues with the game – the animation was a bit rough. And while the into-the-screen view was effective, the perspective was slightly wonky and inconsistent. But, thankfully, the suspect presentation didn't detract from the gameplay which was challenging and thoroughly entertaining. The destructible environments were one of the most memorable features, where buildings and other structures could be blown up. And this wholesale devastation was well handled by the game's 68000 board, so no matter how many enemies or explosions were on screen there was nary a stutter or slowdown.



» [Arcade] The shotgun upgrade gave you a wider shot, which is perfect for taking out multiple enemies.



» [Arcade] You only get a finite number of grenades, so make sure you pick them up at every opportunity.

Another key addition was the two-player mode. Pairing up Soldier Blue with Soldier Red, a la *Ikari Warriors*, was a smart move and one that lifted the game to new heights. A second player could jump in and out of the action at will, and as a twosome it was easier and more enjoyable to blaze through the game's 20 stages and defeat its five bosses.

Cabal debuted in Japanese arcades in September 1988 where it was distributed by Taito (in the US it was licensing by Fabtek). Some of the UK magazines covered the game in their coin-op pages and the opinions were mixed. Ciarán Brennan of *Your Sinclair* raved about the game, writing: "*Cabal* is much more than an *Operation Wolf* clone. I'd even go so far to say that it's a better game than its more distinguished predecessor. It's funnier, faster and more varied," – the mention of humour is surely relating to the loony dance the soldiers perform when they complete a stage. Robin Hogg of *The Games Machine* was not

BOSS RUSH

A rundown of every heavily-armed boss and how to beat them



CHOPPER STAGE 1

■ Your first main foe is a large Chinook-style chopper that hovers slowly around the screen, showering you with a barrage of bombs.

HOW TO BEAT IT: You barely have to move. Just stand in the centre of the screen and shoot it, making sure to blast any bombs that head your way.



SUBMARINE STAGE 2

■ A surprise enemy sub is lurking in what appears to be the village pond! Three hatches open to reveal guns that pepper your position.

HOW TO BEAT IT: This is much trickier than the first boss as its shots are fast so you'll need to dodge. Use grenades when it surfaces to finish it off.



» [Arcade] Get down soldier! The pair dance into the distance at the end of each completed stage.

convinced however, calling it a "poor man's *Operation Wolf* [that] cobbles together many of the ideas gleaned from Taito's smash coin-op in one mediocre package".

Its similarity to *Operation Wolf* – for better or worse – clearly attracted Ocean Software which had already scored a huge hit with its home versions of Taito's lightgun shooter (Bob Wakelin's original artwork for *Cabal* actually featured his 'Mr *Operation Wolf*' character which suggested an official link between the two games). Ocean acquired the European licence and commissioned Special FX to develop versions for the Commodore 64, Spectrum and Amstrad CPC, while Ocean France handled the Atari ST and Amiga releases. Rare was responsible for the sole console version, for the NES/Famicom, and in the US Interactive Designs produced the PC release and an alternative C64 version. An Atari Lynx version was teased in 1991 but never released.

The original coin-op wasn't too advanced – there was no scrolling required or overly large graphics – yet converting the game to home systems wasn't ▶

> **"The coin-op had to be played over and over and the graphics drawn from memory by Lyndon Brooke"**
> Anthony Ball



» [Arcade] The game was far from easy, especially on later stages when multiple choppers and tanks entered the fray.



GUN TRUCK STAGE 3

■ A truck rolls onto the screen, deploying guns that fire bombs at you. The damn truck then keeps returning to drop off more guns!

HOW TO BEAT IT: Ignore the guns and concentrate all of your gunfire (and several grenades) on the blue cab. Blow this up to finish the battle.



BOX CANNONS STAGE 4

■ Three gun placements rise out of the ground and unleash a barrage of shots in your direction. You need to destroy all three to proceed.

HOW TO BEAT IT: Go from left to right, using grenades to destroy the first two guns, then stay left and shoot the right one (as its shots can't hit you).



GROUND CANNONS STAGE 5

■ Similar to the last boss battle, only now there are six gun placements to take out, and the smaller ones keep regenerating!

HOW TO BEAT IT: Concentrate your grenades on the central gun. Hopefully you've saved up plenty of them as you'll need at least a dozen to beat it.





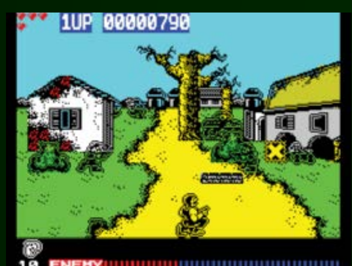
» [Arcade] The graphics might look simple at times, but there's actually a lot going on, with the game throwing lots of sprites about.



» [Arcade] While crouching makes you a smaller target, it can also hamper you mobility. Keep an eye out for those stray bullets.

CONVERSION CAPERS

We look at how well the home versions of Cabal stacked up



ZX SPECTRUM

■ It may have lacked the run and roll moves and the co-op feature, but this version was about as good as you could hope for on the Spectrum. It played really well, at a good pace, and the presentation was top-drawer with plenty of colour splashed about. Another triumph from the talented Jim Bagley.



AMSTRAD CPC

■ This was evidently a rushed port of the Spectrum version. Whereas on the Speccy the sprites were monochrome and the backgrounds were colour, the CPC version flipped it around and the result looked a bit 'off'. Worse still it lacked the speed and smoothness seen on the Speccy, affecting the gameplay.



C64 (EUROPE)

■ This European version, developed by Special FX and published by Ocean, was the pick of the two C64 releases thanks to its well-drawn graphics and solid gameplay. It was also more accurate, including all of the stages and bosses from the original. Just a pity that there was no two-player co-op mode.



C64 (US)

■ This alternative C64 version developed for the North American market was nice and fast, and visually it was fine (bar some weird colour choices), but it smacked of laziness as it only featured the first two bosses (the opening chopper boss was simply reused for the remaining encounters).



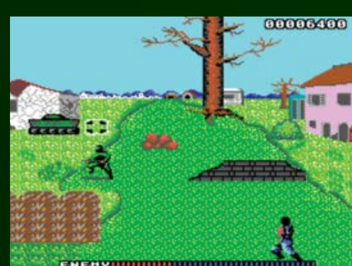
ATARI ST

■ Ocean France produced some solid coin-op conversions for the 16-bit computers and this was among them. The sound and graphics were excellent and it was only let down by some odd controls (you had to pull down and press fire in order to fling a grenade) and the fact that stages five through to eight were left out.



AMIGA

■ Ocean France used to develop its 16-bit versions in tandem so this was almost identical to the Atari ST release and suffered from the same strengths and unfortunate weaknesses. Such a shame the team missed out four of the stages, presumably so the game could be squeezed onto a single disk.



PC/DOS

■ The PC EGA version wasn't far removed from the US C64 release in terms of look and feel. Unlike that version, it was at least complete, with all of the bosses present. There was no co-op mode however, and it was a little too tough (but at least on PC you could easily hack it for unlimited lives).



NES

■ Developed by Rare, this console version was genuinely excellent. It was the only 8-bit release to feature co-op play and the controls translated well to NES's controller. The graphics did suffer from flicker, and some palette issues were present, but overall this was a first-rate conversion from a cracking developer.

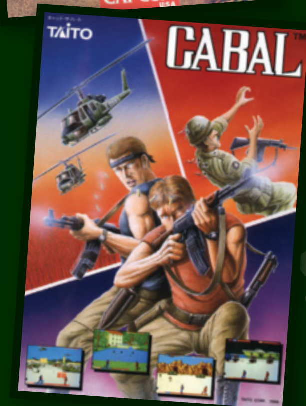
> **"The challenge was including all the levels from the arcade machine and squeezing them onto a NES cartridge"**
> Anthony Ball

▶ a simple task. The biggest issue was the sheer number of on-screen sprites of varying sizes and these had to be scaled back, with the 8-bit computer versions deciding to drop co-op play entirely. Something that affected every home computer was the controls. The game worked well enough using a joystick (indeed there are later version of the coin-op that supported joysticks rather than trackballs), but the soldiers also had to shoot, throw grenades and run/roll. Trying to map all of this to a single fire button was tricky and the various solutions were predictably clumsy. With that said, the overall quality of the *Cabal* conversions was above average.

As for the original coin-op, it succeeded in getting TAD Corp off the ground and the firm released a further five arcade games, with the most famous being the primate platformer *Toki*. The *Cabal* completion screen mentioned another mission but there was no sequel, although TAD did release *Blood Bros.*, which was basically *Cabal* with a Wild West theme. Other developers copied the approach, too and there's a clear subset of shooters, both in the arcade and at home, that can be labelled '*Cabal* clones' – titles like *NAM-1975*, *Dynamite Duke* and *Wild Guns*.

But then history shows that *Cabal* itself borrowed wholesale from another coin-op – the gangster-themed *Shootout* which was released in 1985 by Data East. TAD was founded by former Data East employees so it's obvious where the concept came from. Yet nobody remembers *Shootout*, almost certainly because it was a little-known arcade game with no home conversions to extend its influence. ✱





» The original arcade artwork isn't a patch on the dynamic creation by Bob Wakefield.



» [Arcade] There's a variety of different enemies to encounter in Cabal. They all die the same way, mind.

CABAL CLONES

Just five of the many games that had strands of Cabal in their DNA

DYNAMITE DUKE

ARCADE, 1989

■ An update of Seibu Kaihatsu's mobster-themed shooters, given a *Cabal*-style makeover. Duke himself was huge, and in a neat touch you could slug baddies in the face with your fist! A second version, *The Double Dynamites*, introduced two-player co-op play.



DOUBLE HAWK

MASTER SYSTEM, 1990



■ There was no version of *Cabal* for the Master System but this clone had great visuals and a decent challenge for one or two players (with heroes mercilessly based on Sly and Arnie). Impressive boss battles made for an enjoyable shooter.

NAM-1975

NEO-GEO, 1990

■ This played like a cross between *Cabal* and *Operation Wolf*, with the basic approach of the former married to the scrolling view of the latter. The result was a fantastic shooter that became increasingly outrageous and over-the-top as you progressed.



BLOOD BROS.

ARCADE, 1990



■ Instead of producing a direct sequel to *Cabal*, TAD opted for a very loose follow-up that swapped commandos for cowboys. The gamble worked and the scenario was a better fit for the comedic elements that didn't quite gel in *Cabal*.

WILD GUNS

SNES, 1994

■ This crazy game from Natsume played like a hyperactive version of *Blood Bros*, with western and sci-fi themes banging heads in true steampunk fashion. One minute you were shooting no-good varmints, the next malfunctioning robots.



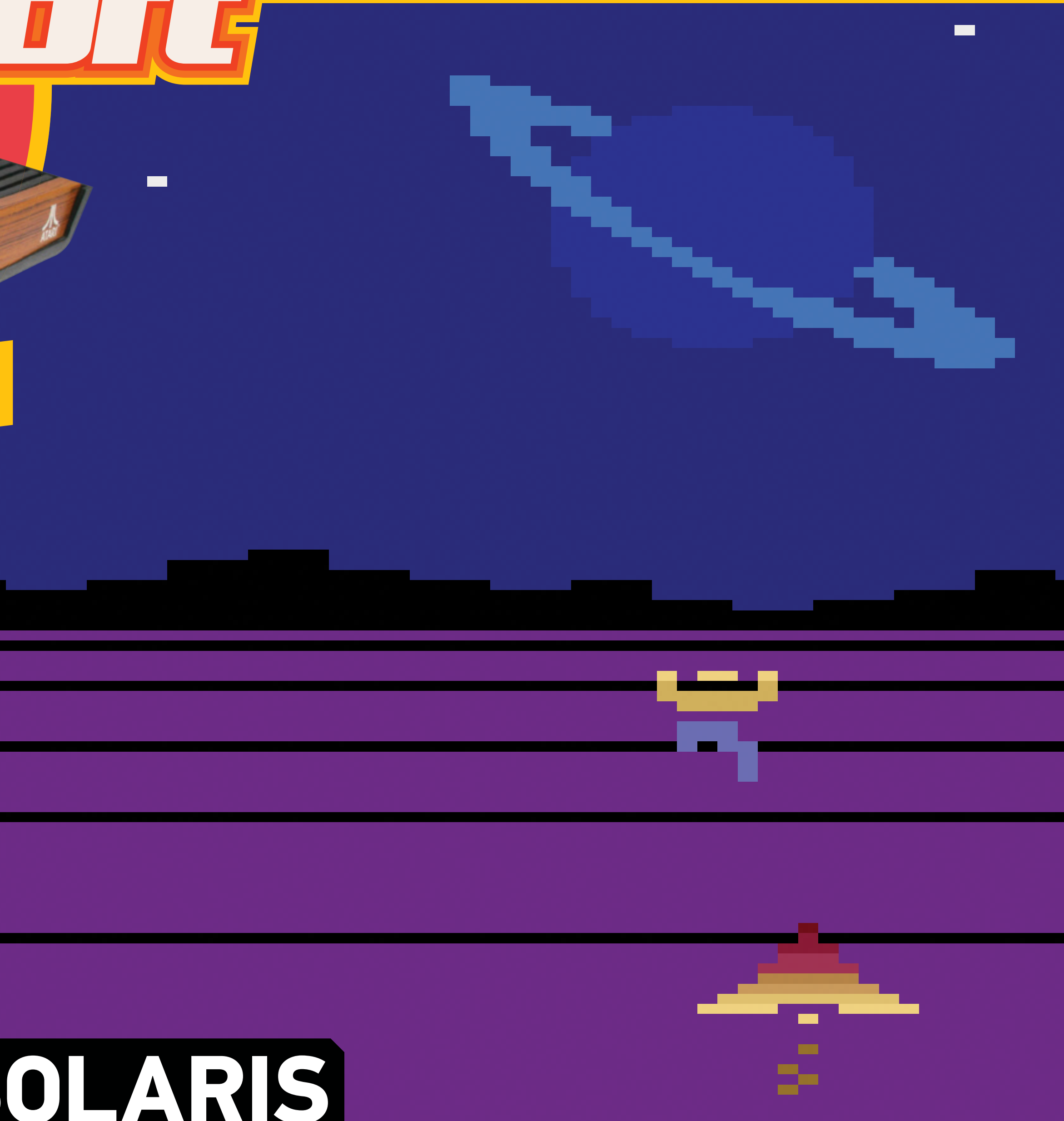
Minority Report

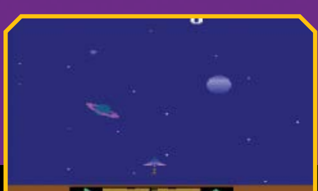
INTERESTING GAMES YOU'VE NEVER PLAYED



ATARI 2600

We've summoned Atari expert Kieren Hawken to delve into the 2600's vast, and sometimes incomprehensible library, to deliver you 11 killer titles that you may not have heard about, until now…





» [Atari 2600] Warp sequence initiated! Now lets go explore the universe and blast some aliens.



» [Atari 2600] Destroying the mothership requires some precision shooting and pixel-perfect positioning.



» [Atari 2600] Infiltrate the alien stronghold in the game's climax and destroy it once and for all!

SOLARIS

■ DEVELOPER: **ATARI** ■ YEAR: **1986**

■ Programmed by the amazingly-talented Doug Neubauer, he of *Star Raiders* fame, *Solaris* was originally known as *The Last Starfighter* and based upon the film of the same name. After the film bombed in the box office, however, Atari choose to let the licence expire and then release it under a new name. *Solaris* does actually owe a lot to Doug's former game in many ways but it is far more advanced and remains an incredible technical achievement for the system that many original 2600 owners missed as it came along much later in the system's lifetime.

In *Solaris* you pilot your starfighter through the universe, exploring each galaxy and visiting alien worlds. The game is split into several distinct parts that are all linked together. The first of these is the map screen, which represents the current galaxy you are in. On this screen you move a crosshair around to choose a sector to warp to. Some sectors are blocked or not available while others are just empty. Different icons show what are in the occupied sectors, whether it be an alien world, mothership battle or enemy attack squadron. Once you choose where you want to go you are presented with an impressive warp sequence where you see your craft rushing through space before zooming off into the distance. You can still control your craft during this sequence and even shoot the planets as they rush by. The next part of *Solaris* is the planet sections, these play much like a 3D version of *Defender* in many ways. You zoom over the planet surface shooting aliens and rescuing the humans stranded there. You can also dock with refuelling stations here and you will often that you need to visit a planet just to do this. On some planets there are also keys that allow you to enter and then destroy the enemy strongholds. The last part of *Solaris* is the space sections, which play more like *Star Raiders*, with you shooting down aliens and enemy fighters before a battle with the mothership itself.

From start to finish *Solaris* is incredible in every way. The gameplay is amazingly deep with so much to discover. It's quite incredible how much they managed to squeeze into a 16k cartridge. We are not sure if we can explain in words just how impressive the graphics are in *Solaris*. They are high-res, full of colour and incredibly smooth to boot. It's no slouch when it comes to the audio either with loads of excellent sound effects and alert noises that push the humble TIA chip to its limits. Put quite simply, *Solaris* is the best game for the 2600 bar none. There is no excuse to not have *Solaris* in your collection – the game is a work of art.

IF YOU LIKE THIS TRY…

STARMASTER
ATARI 2600



■ It would be far too obvious to include the original *Star Raiders* game so we thought it would be more interesting to mention Activision's attempt to replicate it. *Starmaster* certainly features the better graphics, but has far less advanced controls – switching out the touch pad for the more conventional joystick.

STAR VOYAGER
ATARI 2600



■ Activision wasn't the only developer to have a go a replicating the success of *Star Raiders*, Imagic also had a good effort with *Star Voyager*. Bob Smith's game also goes for a more simple approach but lacks the excitement of its rivals. That said it's still a more-than-competent space shooter.

STAR RAIDERS II
VARIOUS



■ While the 2600 version of *The Last Starfighter* was renamed *Solaris*, the Atari 8-bit version more naturally became *Star Raiders II*. This impressive shooter was later licensed by Electric Dreams for release on the Spectrum, Commodore 64 and Amstrad but the original Atari version is the best.



» [Atari 2600] Those yellow spaceships look a little familiar…

It's also worth noting that Doug released two further games that use the same game engine as *Solaris*. Firstly there is *Super Football*, an incredibly advanced gridiron game with a 3D perspective and a staggering amount of different gameplay options. Secondly, we have *Radar Lock*, which is a more-than-competent clone of Sega's super-advanced *After Burner* arcade game that even manages to replicate the classic refuelling sequence!

IN DEPTH



STATUS PANEL
■ This section displays how much fuel you have remaining, the short-range scanner and number of lives remaining (flags). Your current score appears at the top of the screen.

DEEP SCAN
■ The long-range scanner shows you what is in each section of the current quadrant you are in. You can use the crosshair to choose where you are going to warp to next.

JUMP TO IT!
■ The jump countdown tells you how long you have left before your ship will automatically go into a warp sequence, so don't dilly dally around too long deciding where to go!

SPECIAL SYMBOLS
■ These represent incoming enemy fleets, mothership battles, friendly planets (to refuel), hostile territories, deep space and worlds that are under attack.

Minority Report

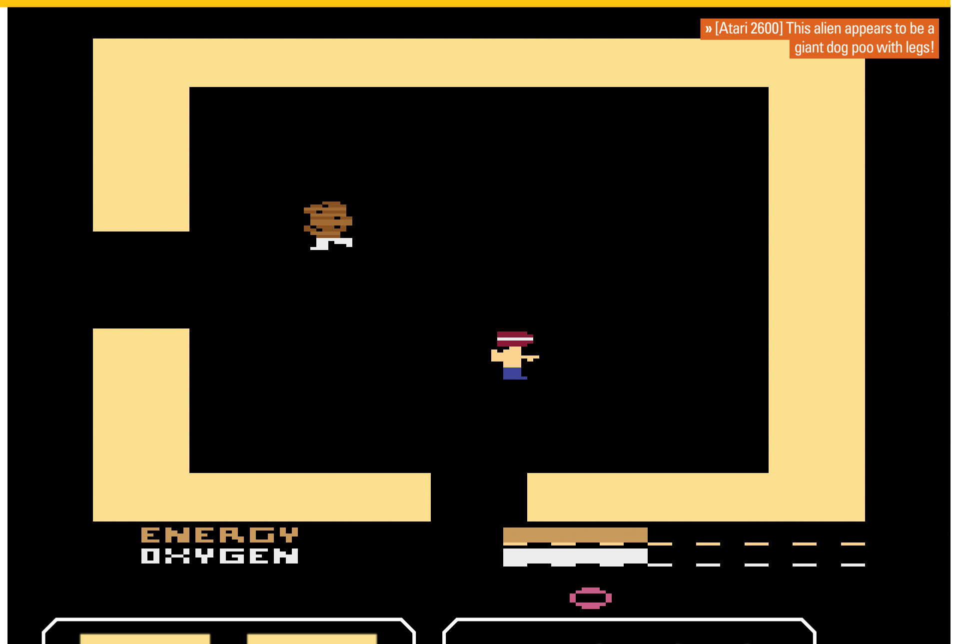
SECRET QUEST

■ PUBLISHER: **ATARI/AXLON** ■ YEAR: **1989**

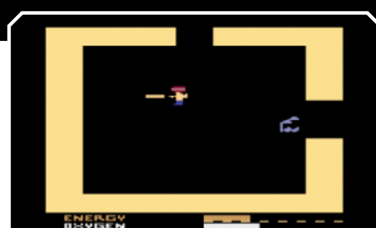
■ Often called the Atari 2600's answer to *Zelda*, *Secret Quest* is interesting for a number of reasons. Firstly because it was one of the last 2600 games released by Atari in the US. Perhaps even more interestingly, though, it was also designed by Atari cofounder Nolan Bushnell and his company Axlon. A picture of Nolan is featured on both the front and back of the box along with a quote from him stating "I'm excited to again be designing games for the bestselling video game system of all time." Originally he had formed Axlon to produce a range of robots that could be programmed and controlled by your computer, but when the company needed cash he decided to go back to what he knew best and struck a deal with Atari to make new games for the 2600.

The plot of *Secret Quest* tells you how eight space stations in orbit around the earth have been occupied by aliens and you must go in and eradicate the threat. This description makes it sound like *Secret Quest* is going to be an all-out arcade blaster, but that couldn't be further from the truth, as *Secret Quest* fits within the adventure genre comfortably and could even be described as an action RPG. The main idea of the game is to locate the sonic keys that need to be used to activate the self-destruct system for each station. Your biggest problem is that you have limited oxygen, so you must also be on the look out for valuable air tanks and energy pods. There are 16 different alien types in total and you must find ways to trap them, kill them and stop them killing you!

With its huge map, password feature and impressive graphics, *Secret Quest*, is about as advanced as Atari 2600 games get.



» [Atari 2600] This alien appears to be a giant dog poo with legs!

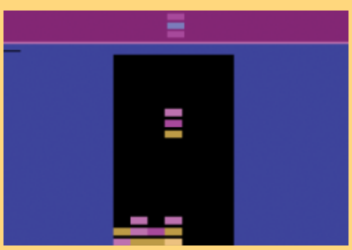


» [Atari 2600] Your life force is running out! Locate energy as soon as you can!



» [Atari 2600] Can you decipher the self-destruct code and make your escape?

More Games to Play



» ACID DROP

■ DEVELOPER: **SALU**
■ YEAR: **1992**

■ In 1992, some 15 years after the original release of the 2600, the German division of Activision released the 2600's very last commercial game – *Acid Drop*. It's a pretty a much direct rip-off of the Sega arcade hit *Columns* but also a very good one. For those who have never played *Columns* it's a simple, but very addictive, puzzle game where you drop blocks, in groups of three, into a well trying to form alignments of three or more.



» BOBBY IS GOING HOME

■ DEVELOPER: **BIT CORPORATION**
■ YEAR: **1983**

■ Taiwanese Atari 2600 games usually fall into one of two categories; either they are bootlegs or unplayable stinkers. However, there are some diamonds in the rough and *Bobby Is Going Home* shines. Featuring plenty of screens, a good challenge and even in-game music it easily ranks as one of the best games of its type on the console. It was also bootlegged by other companies too.



» TAC-SCAN

■ DEVELOPER: **SEGA**
■ YEAR: **1983**

■ A conversion of a little-known Sega arcade game, this shoot-'em-up is particularly interesting as it uses the paddle controllers instead of a joystick. You control a squadron of fighters that move in formation to take out the enemy forces. If a fighter is shot down, your firepower decreases, making the game harder, and when they are all lost it's game over. Extra ships are awarded by reaching set score milestones.



» FRANKENSTEIN'S MONSTER

■ DEVELOPER: **DATA AGE**
■ YEAR: **1983**

■ This spooky platformer is easily the most impressive game to come from the short-lived Data Age. It consists of two screens that rotate and increase in difficulty as you progress. The first of these sees you grabbing bricks to build a wall to stop the monster escaping. The second screen has you charging up the screen avoiding bats to put the brick in place. It might be short, but it sure is a lot of fun.

DEFENDER II

■ DEVELOPER: **ATARI** ■ YEAR: **1988**

■ Atari's conversion of the original *Defender* is still talked about as one of the worst arcade conversions of all time. Thankfully this port of the sequel (also known as *Stargate*) could not be a more different story. In fact we would go as far to say that this is the finest arcade conversion available for Atari's console. *Defender II* features several improvements over the original; adding 'Stargates' to warp to other parts of the level, new enemy types and alien mutations. One of the best features is that you can use the second joystick to activate your smart bombs, we recommend placing it by your foot!

The idea of the game is still exactly the same, to fly horizontally left or right across the level wiping out the alien invaders. But you also have to make sure that they do not abduct all the humans on the planet below. If this happens then they win and you lose! The high-resolution graphics move incredibly fast and with very little flicker. The multi-directional scrolling is fast and smooth and the planetscape below also remains intact on this version. In the audio department this game also excels with some awesome effects that really do add to the frantic action.

Defender II really is a wonder to behold and one of the finest games to ever grace the vintage 2600. You will quickly forget just how bad the original *Defender* conversion was when you play this. It's easy to see why many people still consider Eugene Jarvis' game to be one of the best horizontal shoot-'em-ups ever made. It's certainly the one that set the gold standard for all that followed.



» [Atari 2600] No sooner do you rescue one human than another gets himself into trouble!



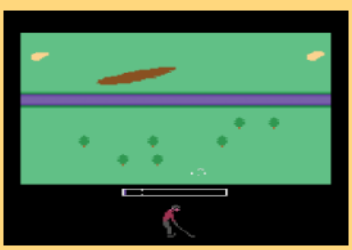
» [Atari 2600] The handy Stargates can be used to warp to other parts of the landscape.

RETRO STINKER

» PAC-KONG

■ DEVELOPER: **QUELLE** ■ YEAR: **1983**

■ The origins of this game are somewhat of a mystery as it was released by numerous publishers under several names but the result is always the same! *Pac-Kong* is literally the worst example of a platformer you will ever find.



» MY GOLF

■ DEVELOPER: **HES/SALU**
■ YEAR: **1990**

■ Only released in PAL regions, this golf game was programmed by 2600 veteran David Lubar and is a technical marvel. Although it only features nine holes, the graphics and gameplay here are staggering. Your golfer is fully animated and every part of the course is represented from bunkers to the putting green. With a full selection of clubs at your disposal the ball is under your full control. It's a far cry from Atari's own 1980 effort.



» FATAL RUN

■ DEVELOPER: **ATARI**
■ YEAR: **1990**

■ The largest commercial game released for the Atari 2600 at a whopping 32k, this post-apocalyptic *Mad Max*-inspired driving game sees you trying to save the remnants of civilisation after a nuclear war. With advanced features such as level passwords, cutscenes, story, music and high-resolution graphics *Fatal Run* is a world away from the system's earlier games. The closest the Atari 2600 comes to a *RoadBlasters* clone.



» COMMANDO RAID

■ DEVELOPER: **U.S. GAMES**
■ YEAR: **1982**

■ This challenging shooter, that comes from the company owned by Quaker Oats, is reminiscent of *Missile Command*. Helicopters fly overhead, dropping parachuting troops into your city. You must use your anti-aircraft gun to shoot down both the choppers and the paratroopers before they make landings and destroy the city. You also have to watch out for the fighter jets which zoom across the screen dropping deadly bombs.



» BMX AIRMASTER

■ DEVELOPER: **TNT GAMES**
■ YEAR: **1990**

■ Easily one of the most graphically impressive games ever released for the 2600, *BMX Airmaster* reminds us in many ways of *California Games*. The idea is to jump on your BMX and compete in a series of events to try and get the highest score. Events include half-pipe, quarter-pipe and the daredevil ramp jump. Fun in solo, it really comes into its own when you play against one of your friends in an all-out stunt-fest!

AREA 51

How did a crack group of coders, game designers and animators infiltrate a top secret military base and uncover a government conspiracy? Paul Drury knows the truth is out there...

The tension in the Atari conference room was palpable. The company might have kickstarted the whole arcade business in the Seventies and enjoyed success in the Eighties but this was 1994 and the famous brand, now owned by Time Warner, was in need of a hit. It had contacted a former employee, Robert Weatherby, responsible for such past glories as *RoadBlasters* and *Championship Sprint*, who had recently set up development studio Mesa Logic, to come in and pitch a game idea but as the start time of the meeting approached, he was nowhere to be seen.



» [Arcade] The team allowed you to swap sides and play as an alien if you targeted your STAAR team members at the start.

Then on the stroke of two o'clock, in marched a stern-faced man in full military uniform and handed out dossiers containing reports detailing the government cover-up of alien contact at the mysterious *Area 51*.

"I'd been hiding in an adjacent room," sniggers Robert, "dressed in a black military outfit, black cap and dark glasses. I had cloth decals that said 'Area 51'and 'STAAR' sewed onto my shirt above the pockets and paid an artist to create a plastic logo that I attached to the front of my cap. We had created a dramatic, three-minute 'game trailer' and I walked over to the VCR stand, pressed play and stood there, expressionless while the movie played. When it ended, everyone immediately clapped and cheered. It was quite an experience."

Robert knew how to make an impression and the board was convinced – *Area 51* was to be their shot at the lucrative gun game market. They had approached Robert with a view to him taking over a lightgun shooter already in development called *Bounty Hunter* but having played it and finding it underwhelming, he asked for a few months to come up with an alternative concept. Atari agreed and sent over a selection of their competitors' gun games that were doing well.

"*Lethal Enforcers*, *Terminator II* and *Revolution X* turned up at my offices in Texas," remembers Robert,



» A huge amount of effort was put into *Area 51*. Here's a model of one of the game's aliens.

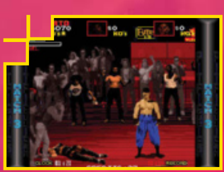


» [Arcade] If the alien onslaught becomes overwhelming, use your grenades…



IN THE KNOW

» **PUBLISHER:** ATARI GAMES
» **DEVELOPER:** MESA LOGIC / ATARI GAMES
» **RELEASED:** 1995
» **PLATFORM:** ARCADE
» **GENRE:** LIGHTGUN



PUBLISHER HIGHLIGHTS

ROAD RUNNER
SYSTEM: ARCADE
YEAR: 1985

VINDICATORS
SYSTEM: ARCADE
YEAR: 1988

PIT-FIGHTER (PICTURED)
SYSTEM: ARCADE
YEAR: 1990

who became lead designer and external project manager for *Area 51*. "These were very successful games, so it was quite a challenge to try to come up with a new game idea that might outsell them. After weeks of brainstorming, my only employee at the time brought in a issue of *Popular Science* magazine. I began reading the article, 'Searching for the Secrets Of Groom Lake', and the concept of the game unfolded before my very eyes! All the ingredients were there; a secret military base, rumoured aliens and so on. We added a dose of fantasy and extended the storyline so aliens were taking over Area 51, infecting the humans and turning them into their own. It was your job to infiltrate the base, identify the threat and save mankind!"

It was a compelling if well-established narrative – destroy all aliens through use of heavy weaponry. However, there was something about this blaster that tapped into the zeitgeist. The *X-Files* had hit US screens in 1993 and the idea that the government really was covering up extra-terrestrial shenanigans had considerable traction. Indeed, Robert and his team weren't the only ones to see the potential. "At the project initiation, I met with Atari's corporate attorney and told him that he should immediately trademark the name *'Area 51'* for gaming, which he did," Robert explains. "He told me several weeks later that [the producers of] *Independence Day* had originally wanted to call their movie *'Area 51'*, but we beat them to the trademark so they had to change their name!"

With the desirable title secured, the project began in earnest in early 1994. Charlie Grisafi took on the role of lead programmer, as well as having a major role in the design of the hardware and managing the large amount of rendering required for the game's graphics. "When I started on the project, the plan was for *Area 51* to be an interactive movie," says Charlie, recalling a time before 'interactive movie' became dirty words in ▶

MARK PIERCE Q&A

Area 51's executive producer is bringing the arcade experience home with SureShotHD.com and shares his memories



What was your role at Atari?

I had success as a team leader, designer and animator on games like *Pit-Fighter* and *Klax* and so was asked to take over as VP of Product Development of what was a failing organization in 1992. Executives had not invested in much needed infrastructure and EA had poached our best talent. After a great internal, moral struggle, we finally capitulated to market demand and decided to create a gun game. The famous Ed Logg (*Asteroids*/*Centipede*) took on *Bounty Hunter*, which had players killing ghouls in a graveyard, which, in our hippy mentality, were okay to shoot [at] but Atari couldn't provide him with the talent and he was stolen by EA, too.

So you decided to go with an external development team?

I had worked with Robert Weatherby on *RoadBlasters*. He had just gone independent after leaving EA, where he went after leaving Atari, before it was fashionable to leave Atari. His pitch for *Area 51* was epic. There was no question we [went] forward with his vision. I took over a decimated [organisation] so having a trusted outside team to provide cover was a good move.

Was *Area 51* an instant hit?

No! During its first field test, we were shocked at how bad the results were but we all knew we had a good game and what needed to be fixed, the bulk of which was a new cabinet. We gave the team five months to get it back out and through the sheer will of everyone at Atari and Mesa Logic, we were blessed with fantastic results.

How important was its success to the company at the time?

Area 51 was critical to Atari. I was put in charge of a corporate turnaround, typically an impossible task, and we hadn't had a profitable game since a few years before I got the VP job. *Area 51* not only had the immediate benefit of giving us $21 million in cabinet sales, it became a franchise with follow-ups like *Site 4*. I think the home game even did about 250,000 units, which wasn't bad for a gun game in a joystick world. I felt great pride handing out six-figure bonus checks to team members!

THE TRUTH IS IN THERE…

Area 51 has many secret rooms to discover. Here are our favourites…



CHOW PALACE

■ Protect the prone woman before she becomes alien dinner. Is she really dressed appropriately for a top-secret military base, by the way?



EGGCELLENT

■ The best way to prevent aliens overrunning earth is catching them young. Here you can blast them while they're still in their eggs.



GREAT BALLS OF FIRE

■ More a cutscene than a secret area, this interlude features a huge, fireball-spitting alien and the warning 'Access Denied!'.



THE THRONE ROOM

■ It's good to catch the alien menace with their trousers down and here you can pick them off while they do their business in the men's room.





gaming circles. "The data would be streamed from a CD player, using licensed movie compression software called 'Cinepak'. Unfortunately, this could only display a 'letterbox' movie on screen and even scaled up, it didn't fill the whole screen. I realised that the technology was there to get around this. I knew that Robert Birmingham and Dave Sheppard had been working on interfacing a hard disk drive to the COJAG. This was impressive and I didn't know of any other arcade game at that time that was shipping with a hard drive."

In case you're wondering, 'COJAG' isn't a bald, lollipop-sucking detective but a version of Atari's Jaguar console chipset used for arcade games and was a central part of the *Area 51* hardware. Charlie used the faster data transfer speeds afforded by the hard drive, wrote his own more effective compression software and after much effort, got the graphics streaming in full-screen, greatly improving the player experience. And that hard drive proved vital when it came to handling the colossal amount of data generated when creating the environments and enemy animations that made the game such a pleasure to blast through. "The amount of rendering required was a huge obstacle," explains Charlie. "It was originally done by Robert's team in Texas but as time went on, the raw horsepower required to do it all became more than they had. I realised that the Silicon Graphics workstations of all the different teams at Atari in California could be a huge resource for doing this. Atari helped us coordinate getting access to all of the systems in the building after hours when the other teams weren't using their systems, so every night we would take over and turn all the SGI systems at Atari into a large render farm."

> "I spotted the main guy in Area 51 at a theme park and said, 'Hey, you wanna be in a videogame?'"
> Rob Rowe

The striking look of *Area 51*, with aliens and infected humans lurching out from cover, undoubtedly added to the overall feel of the game, but without a decent gun in your hand the gameplay would have been severely stunted. Thankfully, the Atari Tools Group, and particularly Brian McKee, not only provided an excellent weapon but one which allowed significant improvement in the arcade experience. "One of the problems with earlier generations of arcade guns was that they didn't work when too close to the monitor," says Charlie, "which meant you needed a special cabinet. They would have a monitor in the bottom of the cabinet facing up and a large mirror angled in the back of the cab so the player could see the image. Because of the optics of using a mirror, the light level would drop, so the opening for the player to see the mirror was as small as possible. It was like they were looking into a 'tunnel' and it limited the viewing to only those standing directly in front of it. Our gun didn't have these limitations and we pushed for *Area 51* to get rid of the mirror system. We did have some resistance from marketing, who thought the 'tunnel' was what players expected from a gun game, but field test results unanimously favoured our new system…"



» [Arcade] When Sergeant Major Bradly tells you to 'stay low', you better do it, solider…



SHAKE YOUR BUDDHA

■ Shoot Buddha statues to reveal the dev team. Robert explains this scene was removed for the Asian market to avoid bad karma...



TANK TOP

■ Destroy the shield to show a model sporting a vest and briefs twinset, in a pastiche of the Marks & Spencer Christmas ad campaign of 1994.



X MARKS THE SPOT

■ More voyeuristic blasting as you obliterate a map to reveal the 'treasure' – Lt. Grant posing provocatively for 'women in uniform' fans.



» The team at a tradeshow (left to right) Rob Rowe, Charlie Grisafi, Steve Caterson (Artist), Robert Weatherby, Mike Hally, Darryl DePriest (Marketing).



» [Arcade] Playing co-op is the best way to not only defeat the alien horde but to unlock the secret rooms.

The added bonus of other arcadegoers being able to ogle the action helped *Area 51* make an impression when it arrived in arcades in 1995. The opening scenes, with burly Sergeant Major Marcus Bradly urging you to 'stay low' and Lieutenant Stephanie Grant giving the alien menace both barrels, announced the arrival of a new sort of movie-style blaster, which threw you into a hostile 3D environment rather than presenting you with a gallery of pop-up targets. "We spent a lot of time trying to get that cinematic feel right," explains producer Rob Rowe, "but we fooled people into thinking it was 3D, when in fact we were streaming layers of 2D movies. We were competing with *Time Crisis* but our game cost $2,500, not $20,000."

Rob had been at Atari since 1980 and had learned a lot about capturing film footage and video-editing on projects such as *Firefox* and *720°* and by the time he worked on *Pit-Fighter*, he was shooting footage for games as he would for a film, which meant casting actors. "I was looking for people everywhere," he says with a smile. "The main guy was Terry and I spotted him at a theme park. He was buffed and I just went up to him and said, 'Hey, I work at Atari... you wanna be in a videogame?' The female star was my neighbour, Kim, who had done a little modelling before."

If you've played *Area 51*, it's likely you remember Kim. The game simultaneously feels progressive by having a strong female lead character but then sullies its progressive credentials somewhat by boosting her proportions to beyond even *Baywatch* proportions. Rob, however, explains technology rather than voyeurism was the driving force. "Because of the reduction in graphics and limited colour palette you had to accentuate everything. We were looking for people who could exaggerate their movements and who had prominent body features. It was a way for you to see what was going on. We needed people with large features from big lips to big bodies and, yeah, big breasts. Everyone wanted my role, bringing in models and actresses for auditions, and it was a lot of fun but hey, it was just a job after a while…"



» [Arcade] You never know what might be hiding behind a door. Blast first, ask questions later.

MORE FROM AREA 51

More forays into the secretive Nevada Air Force base



AREA 51: SITE 4 1998

■ After the terrorist slaughtering of *Maximum Force*, released in 1997, the Mesa Logic team returned to the aliens of *Area 51*, only this time the extraterrestrials had broken out of the secret base and were creating havoc across America.



AREA 51 2005

■ Developed by Midway's Austin Studio and loosely based on the original coin-op, this shooter sends you back into the military base to clear up a mutant virus. A decent FPS, featuring the voices of both David 'Mulder' Duchovny and Marilyn Manson.



BLACKSITE: AREA 51 2007

■ This first-person shooter placed more emphasis on squad-based tactics with you bossing around AI-controlled comrades and occasionally jumping aboard vehicles, though the final game suffered from a rushed development schedule.



» One of the models used to create the in-game zombies. Tuck your shirt in, soldier.

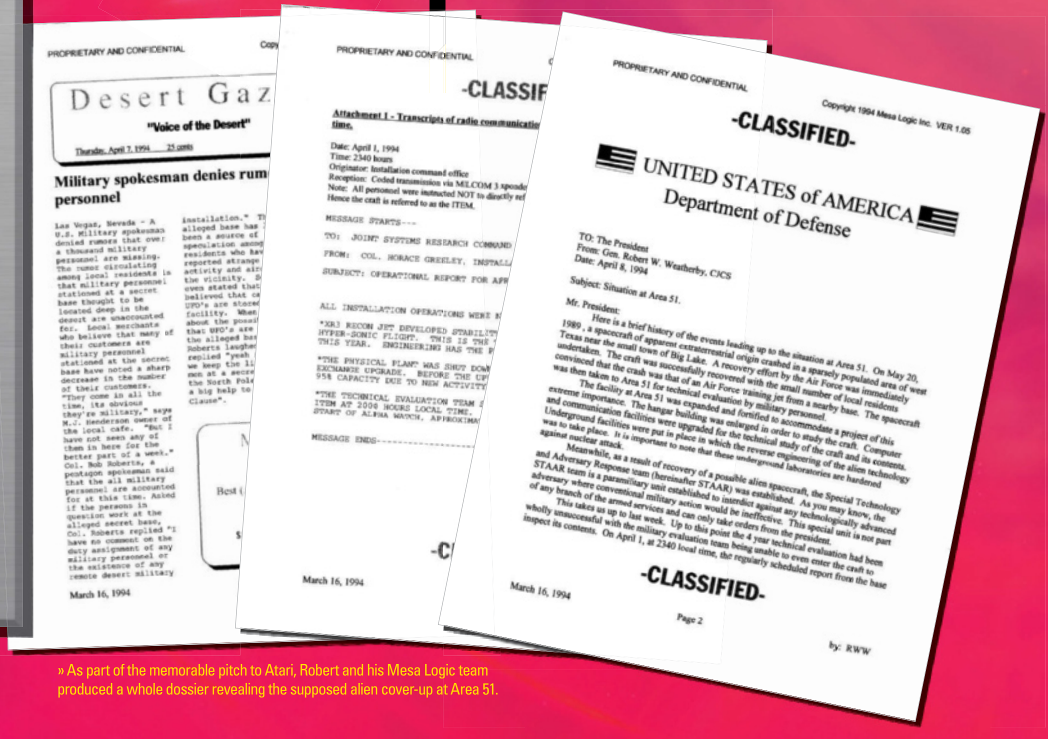


» The *Area 51* cab in all its twin-gunned glory.

Whilst Rob's motion-capturing skills brought your STAAR comrades (which stands for 'Strategic Tactical Advanced Alien Response', acronym lovers) to life, the array of aliens and zombies that had overrun the military base were created using stop-motion, an technique long used in the film industry, which involved physically moving an object very slightly between individually photographed frames. "The whole stop-motion thing was new to gaming and very cool," says Rob. "We built a station with fixed lights to capture all the images and a guy called Pete Kleinov would pose every animation, using these ball and joint skeletons. You might know him as 'Sneaky Pete'. He played with the Flying Burrito Brothers in the Sixties and was a total legend."

Rob cannot confirm whether Pete sneaked in the exhumed body of fellow folk rock legend Gram Parson into the shoot but it wouldn't be the only secret hidden in the game. Appropriate for a title based on a top-secret facility shrouded in mystery, the team created many rooms in *Area 51* that could only be entered if the player completed a specific series of 'triggers', such as shooting particular barrels or nameplates on doors. "I was very much into the secret rooms," grins Rob, "so I would record extra animations that were really wonky, like flying chickens or a model lying on a table or spiders dropping from the ceiling. I wasn't always sure how I'd use them but I carried on creating them up to the very end. Everyone had ideas and we tried to get in as many of them into the secret rooms as we could."

"Easter eggs are so great because it adds so much depth to the gameplay," agrees Mike Hally, who joined the *Area 51* project in its latter stages as a game designer. "It's like the base level is, 'I've got a gun and I need to shoot a bad guy.' The next level is, 'How many guys can I shoot in a row?' and there's a tally of that [in the game], which separates the *really* good players. Then there's a whole other level, which is, 'What if I start shooting all these objects? Does that do anything?' I'd go through the game and create a list of objects, like if you shoot every other window and a



PROPRIETARY AND CONFIDENTIAL

Desert Gaz

"Voice of the Desert"

Thursday, April 7, 1994 25 cents

Military spokesman denies rum personnel

Las Vegas, Nevada - A U.S. Military spokesman denied rumors that over a thousand military personnel are missing. The rumor circulating among local residents is that military personnel stationed at a secret base thought to be located deep in the desert are unaccounted for. Local merchants who believe that many of their customers are military personnel stationed at the secret base have noted a sharp decrease in the number of their customers. "They come in all the time, its obvious they're military," says M.J. Henderson owner of the local cafe. "But I have not seen any of them in here for the better part of a week." Col. Bob Roberts, a pentagon spokesman said that the all military personnel are accounted for at this time. Asked if the persons in question work at the alleged secret base, Col. Roberts replied "I have no comment on the duty assignment of any military personnel or the existence of any remote desert military

installation." Th alleged base has been a source of speculation among residents who hav reported strange activity and air the vicinity. S even stated that believed that ca UFO's are stored facility. When about the possi that UFO's are the alleged bas Roberts laughed replied "yeah we keep the li men at a secre the North Pole a big help to Clause".

March 16, 1994

PROPRIETARY AND CONFIDENTIAL

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Attachment 1 - Transcripts of radio communicatio time.

Date: April 1, 1994
Time: 2340 hours
Originator: Installation command office
Reception: Coded transmission via MILCOM 3 xponde
Note: All personnel were instructed NOT to directly ref
Hence the craft is referred to as the ITEM.

MESSAGE STARTS---

TO: JOINT SYSTEMS RESEARCH COMMAND
FROM: COL. HORACE GREELEY, INSTALL
SUBJECT: OPERATIONAL REPORT FOR APR

ALL INSTALLATION OPERATIONS WERE N

*XR3 RECON JET DEVELOPED STABILITY HYPER-SONIC FLIGHT. THIS IS THE THIS YEAR. ENGINEERING HAS THE P

*THE PHYSICAL PLANT WAS SHUT DOWN EXCHANGE UPGRADE. BEFORE THE UP 95% CAPACITY DUE TO NEW ACTIVITY

*THE TECHNICAL EVALUATION TEAM ITEM AT 2000 HOURS LOCAL TIME. START OF ALPHA WATCH, APPROXIMA

MESSAGE ENDS-----------

March 16, 1994

PROPRIETARY AND CONFIDENTIAL

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-CLASSIFIED-

UNITED STATES of AMERICA
Department of Defense

TO: The President
From: Gen. Robert W. Weatherby, CJCS
Date: April 8, 1994

Subject: Situation at Area 51.

Mr. President:

Here is a brief history of the events leading up to the situation at Area 51. On May 20, 1989, a spacecraft of apparent extraterrestrial origin crashed in a sparsely populated area of west Texas near the small town of Big Lake. A recovery effort by the Air Force was immediately undertaken. The craft was successfully recovered with the small number of local residents convinced that the crash was that of an Air Force training jet from a nearby base. The spacecraft was then taken to Area 51 for technical evaluation by military personnel.

The facility at Area 51 was expanded and fortified to accommodate a project of this extreme importance. The hangar building was enlarged in order to study the craft. Computer and communication facilities were upgraded for the technical study of the craft and its contents. Underground facilities were put in place in which the reverse engineering of the alien technology was to take place. It is important to note that these underground laboratories are hardened against nuclear attack.

Meanwhile, as a result of recovery of a possible alien spacecraft, the Special Technology and Adversary Response team (hereinafter STAAR) was established. As you may know, the STAAR team is a paramilitary unit established to interdict against any technologically advanced adversary where conventional military action would be ineffective. This special unit is not part of any branch of the armed services and can only take orders from the president.

This takes us up to last week. Up to this point the 4 year technical evaluation had been wholly unsuccessful with the military evaluation team being unable to even enter the craft to inspect its contents. On April 1, at 2340 local time, the regularly scheduled report from the base

-CLASSIFIED-

March 16, 1994

Page 2

by: RWW

» As part of the memorable pitch to Atari, Robert and his Mesa Logic team produced a whole dossier revealing the supposed alien cover-up at Area 51.


» Mike Hally takes on the alien scum at an Acme trade show in 1996.



» [Arcade] Why do so many secret bases insist on stockpiling exploding barrels?

door or something, then it would unlock a whole secret room… My favourite is the bathroom scene, with aliens peeing and crapping. Hysterical! Once a player hears about a secret room, they want to find it themselves."

Bragging rights in the arcade were important and in the days before the prevalence of video playthroughs of games, rumours of hidden content added to the buzz around a title. It was all part of the arcade experience, something that Mike, an Atari veteran who'd worked on such coin-ops as *Star Wars* and *Indiana Jones* and the *Temple Of Doom*, was well aware of. His role on *Area 51* was to create a 'flow' to the gameplay and though it was the first lightgun game he'd worked on since joining Atari in the Seventies, he knew what made a hit. "I placed each and every enemy in the game," he beams. "I used my experience creating playfields in games in the Eighties. I placed all the objects in Star Wars but I did recognise the pace of this game. You couldn't just be given something to shoot at every five seconds. I had to put as many things as I could on screen and force the player to point the gun to the left, then the right, then to the top of the screen… I had to get enough stuff in there for both one player and two players to shoot at, and think about balancing it for new players and experienced players."

It was a challenge compounded by the fact that Mike couldn't just reposition an enemy and test the game two seconds later. All the data had to be processed and rendered into the background, something that could take all night, but with patience, persistence and a test group who often put in ten-hour days, the gameplay was honed beautifully. Good players can blast their way from the opening assault on *Area 51* right through to seeing off the alien mothership in under 20 minutes but they'll want to do it again, perfecting their technique, boosting their score and trying to unlock all the secret areas.



» [Arcade] *Area 51* was a huge success and it went on to sell over 20,000 cabinets at the time of release.

> **"Once a player hears about a secret room, they want to find it themselves. It becomes a status thing"**
> Mike Hally

"It had all the elements that a great game has," says Mike, proudly. "It was super easy to learn but difficult to master and it had that perfect progression – it didn't get too hard, too quickly. It ramped itself up for a two-player game, it ramped itself down if the player was getting beaten… and everyone loves aliens! *Area 51* was a real thing that players could read about. When we started getting reports in of the huge takings week after week, the marketing department got behind it, then the whole company got behind it. You just know when you have got something!"

Area 51 did indeed turn out to be the hit Atari had hoped it would be, although by the time of its release, Time Warner Interactive was in the process of selling the brand onto Midway, which explains why the home versions and sequels appeared under the Midway name. "The game turned out better than I expected and sales went through the roof," confirms Robert, who led the Mesa Logic development team from initial concept to seeing *Area 51* machines roll off the production line. "I told the Atari executives that my goal was to sell 10,000 units and they laughed but appreciated my enthusiasm. At the time, the arcade business was in decline and a great game was selling anywhere from 3,000 to 5,000 units. We sold over 20,000 cabinets! I've probably developed or codeveloped over 20 games in my lifetime, and *Area 51* is the most special to me."



» [Arcade] Keeping a 'killstreak' going will seriously boost your high score.

Mindless fun with a dash of alien mystique means the game is still a brilliant blast, two decades on, but we can't let Robert go without asking if he thinks the US government really is hiding something in Area 51?

"I'd love to think so," he laughs. "I wouldn't rule out the idea!" Maybe one day we'll know the truth… *

Thanks to Robert, Charlie, Rob, Mike and Mark, who provided enough material for a book on the making of *Area 51*, and to Martyn Carroll for additional help.

Mario's Picross

PICTURE-PERFECT PUZZLING

» RETROREVIVAL

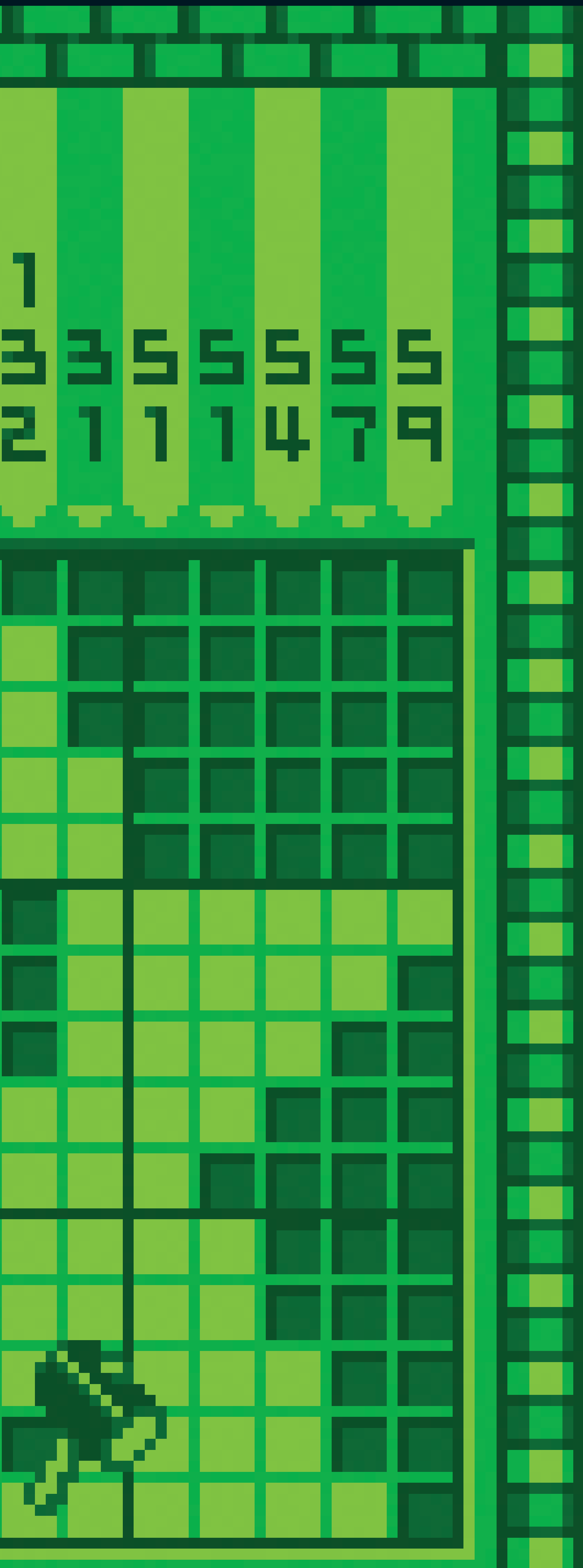


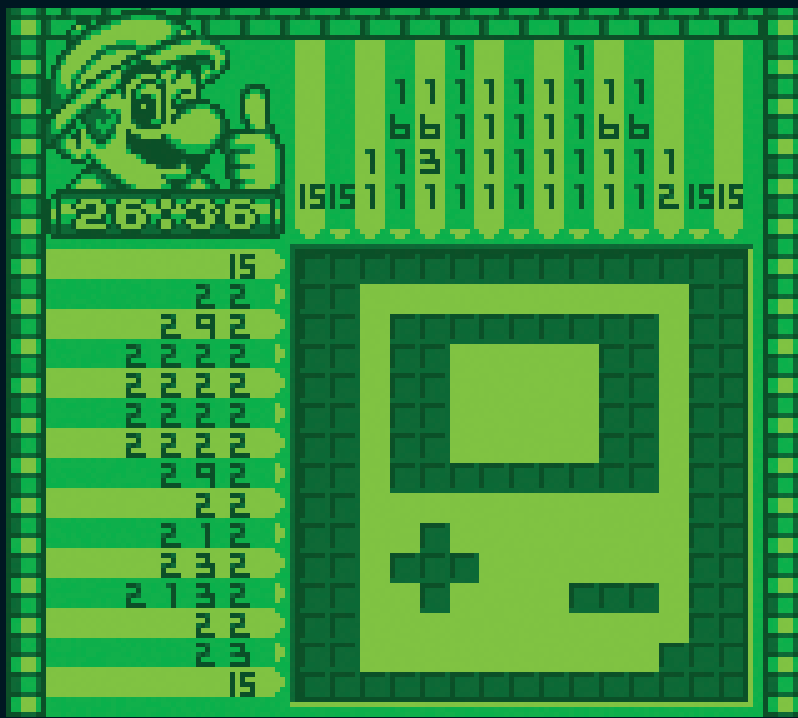
» GAME BOY » JUPITER/NINTENDO » 1995

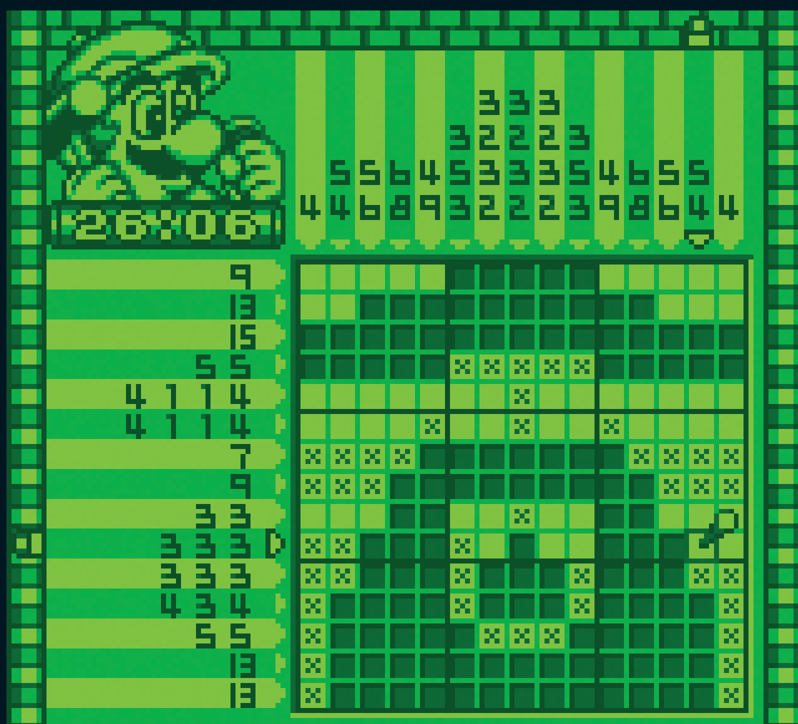
Puzzle games are rarely as intense as the likes of *Tempest 2000,* but they're often pretty stressful in their own right. There's every chance you won't believe me, of course – you're doubtless thinking of those lovely opening moments of *Columns* with the soothing music and slow game speed. Don't think of that. Think about staring down an impenetrable wall of blocks in *Kurushi*, or watching helplessly as your Lemmings wander into a flamethrower. See? They lull you into a false sense of security and then deliver constant panic.

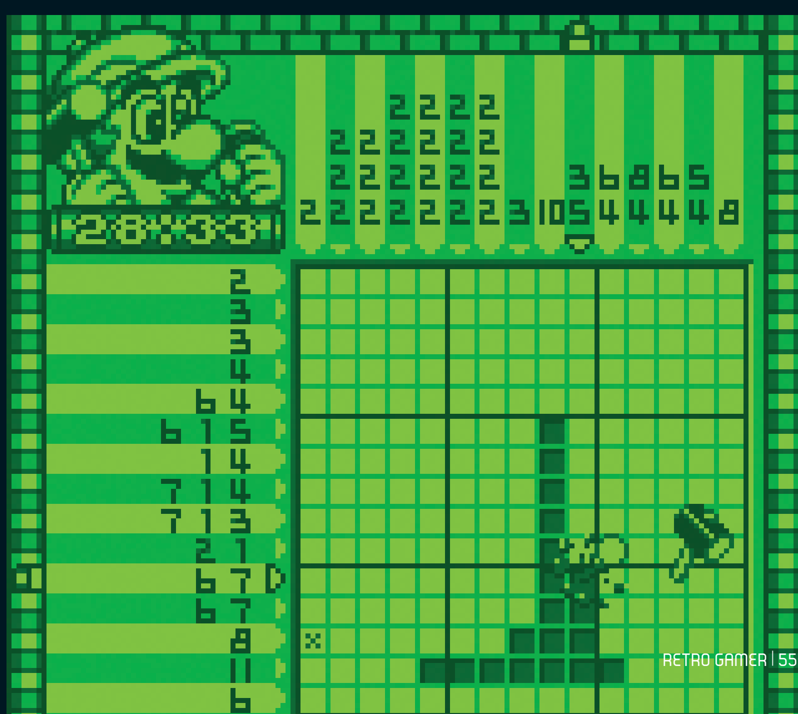
That's why I like *Mario's Picross* – it's one of the few puzzle games that is as relaxing as advertised. Instead of having to deal with additional elements and moving parts, you're given a static game board and all of the hints you need at the beginning of each puzzle. The only form of pressure applied is a generous 30 minute time limit that is reduced with each mistake you make. However, if you take the time to think through each move correctly it's unlikely that you'll make any mistakes at all. There's also a real sense of satisfaction to be derived from turning raw numerical information into a little picture of some kind (and yes, that *is* the nerdiest thing I've ever said).

So if I'm given a relaxing Sunday morning with nothing else to do, there's a good chance you'll find me in bed clutching a Game Boy and playing *Mario's Picross*. *Tetris* is just too much hassle, *man.* *









SG-1

In order to see how far you've come, you need to remember where you came from. Scott Marley looks back at Sega's first home console, and explores why it deserves more appreciation than being wheeled out as a bit of trivia

The major adversaries vying for the hearts of gamers during the myriad console wars mostly come from either a background in consumer electronics (NEC, Sony), toys and games (Mattel, Nintendo), or computing (Microsoft, Commodore). With the exception of Nintendo, most of these contenders don't have a long history or ethos that was forged in the art of creating games, mainly relying on third-party support to build up libraries for their platforms.

You can count on the claw of a three-toed sloth the number of companies who would translate their primary business of gaming on the street to gaming in the home: Atari, SNK and Sega. Atari had the advantage of being first, and that novelty would propel its fortunes forward. SNK only achieved niche appeal, which leaves Sega as a special case in the pantheon of first-party developers.

Ever since its humble beginnings as a merger of two Japanese companies founded by American businessmen, Sega would straddle the divide between East and West with a global perspective. Its primary business was developing coin-operated hardware, which benefited from fostering a cross-pollination of ideas between the two worlds. By the early Eighties, Sega had moved beyond electro-mechanical coin-ops into videogames for the arcade market, becoming one of the top players in the industry. However, as the market began to slump in 1982, Hayao Nakayama, then-president of Sega, looked for new ways to expand his empire.

The idea of playing games in the home had not yet captured the imagination of the average Japanese



power on

hold



» [SG-1000] Fun Fact: *Bongo* was referenced in *Sega Hard Girls*, winning the award for the largest cleavage of any Sega character (oh dear – ed).



» This charming fellow is Professor Asobin, the mascot for the SG-1000. He appeared on a lot of the device's packaging.

consumer. The 1981 Epoch Cassette Vision was the first reasonably-priced home console, but it faced strong competition from simpler all-in-one units and *Pong* clones. The Intellivision made it to Japanese shores via Bandai in 1982, but it was priced out of contention. Serious gaming was taking place on the dominant home computers from NEC, Sharp, Hitachi and Fujitsu at the time, but the entry fee into this club was dear. Seeing potential in this untapped market, Sega set about applying its arcade experience into developing a fairly-priced console for the home.

In an interview with Famitsu in 1998, Sega's lead designer of consumer hardware development, Hideki Sato, looked back at Sega's first steps into the home. He confided that it was challenging to decide on which components to use in the new machine. A home console would sell tens or hundreds of thousands of units, and unnecessarily pricey components would greatly impact on the bottom line. Sato reasoned that the machine would be used for about 500 hours per year, and chose components to meet or exceed this durability and lifespan requirement. He settled on popular off-the-shelf ▶

KEEPING IT ALIVE

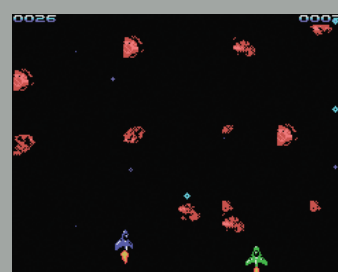
Martin Wenting published Astrododge for the SG-1000 in 2012

Why did you decide to release *Astrododge* on the SG-1000?
I had fond memories of the SG-1000 and I was a bit surprised to see no physical homebrew releases for the system. At the time I was already working on getting *Astrododge* ready for the ColecoVision, so I started to work on a SG-1000 version of the game quite early on in development.

How easy or difficult was it to work with the hardware?
I knew beforehand that the SG-1000 had similarities to both the MSX home computers and the ColecoVision, so my approach was to keep the development of the game synchronised across all three platforms at all stages of development. However, the lack of documentation and homebrew for the system made things tricky.

Did the various SG-1000 system revisions and variations cause any headaches with compatibility?
The SG-1000 and SC-3000 had quite a bit of small differences which were difficult to find out, but luckily I had some great help from SC-3000 enthusiast Nick Hook during the beta-testing phase.

How does the SG-1000 compare to other systems you've developed games for?
I'm a huge Sega fan (having collected for almost all Sega systems), so the SG-1000 holds a special place in my heart. Otherwise, development was comparable to the ColecoVision version in terms of memory and features.



» [SG-1000] *Astrododge* proves that there's still plenty of love for Sega's first games console.

What's your favourite feature or proudest accomplishment in *Astrododge* for the SG-1000?
I think the number of moving multicoloured objects on screen is a nice accomplishment, as well as all the online functionality, such as online high scores and achievements.

Any difficulties in recreating the SG-1000 style packaging and/or cartridge shells?
Yes, it took quite a while to figure out how to approach the physical cartridge production. Because of the differences between the SG-1000, SG-1000 II and SC-3000. In the end we couldn't get the cartridge to fit perfectly in the SG-1000, so as of now it only works on SG-1000 II and SC-3000 systems.

Do you have any fond memories of the SG-1000? Any favourite games, hardware peripherals?
Yes, I like the fact that, like the ColecoVision, the system has many nice hardware add-ons such as the steering wheel and keyboard.

THE EXTENDED FAMILY

Take a gander at the SG-1000 and its affiliated systems



SG-1000

1983

■ The original design comes in two variations, a black label and a blue label. The black label version is harder to find.



SC-3000/SC-3000H

1983

■ The SG-1000's PC cousin, it comes in three colours and a full-stroke hard key 'H' revision that replaced the original rubber keys



SG-1000 II

1984

■ The Mark II design would incorporate some ideas from its Famicom rival, and pave the way for the Mark III



MARK III

1985

■ While not strictly part of the family, the Mark III is compatible with SG-1000 software and has composite and RGB output.

components: the ubiquitous Zilog Z80A processor, and, from Texas Instruments, the TMS9918A video display controller and the SN76489 sound generator.

Initially, the first system developed was the SC-3000, an 8-bit microcomputer aimed at beginners. However, Sega caught wind of Nintendo's plans to release a console that only played games, so a stripped back version of the SC-3000 was codeveloped, removing the keyboard and adding a joystick. This aligned with Sega's observation that early users would mainly ignore the computing functions of the SC-3000 and play games. Sega did not abandon its home computing ambitions, though, and designed the SK-1100 keyboard accessory.

The SG-1000 launched on 15 July 1983 at an attractive price of ¥15,000, half of the SC-3000's price. It's difficult to be certain of the exact titles, but the first three games were *Borderline*, *Safari Hunting* and *N-Sub*. These games were first seen in 1980 on Sega's VIC dual-arcade board, which shared the same CPU as the SG-1000. While this made them easy targets for porting they weren't exactly household names, and felt dated by that time.

As the fickle fates would have it, Nintendo would also launch the Famicom on 15 July 1983, marking



» [SG-1000] *Zaxxon* is a hot contender for the title of SG-1000's killer app.

ESSENTIAL GAMES

The titles that made the SG-1000 shine



GIRL'S GARDEN ガールズガーデン

1984

■ Yuji Naka's *Girls Garden* stars Papri, the flower-collecting girlfriend of Minto, who ventures into a bear-infested forest to collect ten flowers for her beau. Flowers must be collected in full bloom – not too early or they're wasted and not too late when they begin to wilt – while distracting bears with honey pots.



HANG-ON II ハングオン II

1985

■ Though the SG-1000 lacks an outstanding killer app, the greatest claim to the title is probably *Hang-On II*, the exclusive SG-1000 'sequel' to the arcade sensation. While making obvious concessions to work on the diminutive hardware, it does a great job of recreating the experience and the iconic theme tune.



SPACE INVADERS スペースインベーダー

1985

■ At the time, *Space Invaders* on the SG-1000 was one of the most arcade-accurate ports of the game. Unlike the Famicom and Atari ports, the Invaders retain their look, and Sega added colours that sit somewhere between the monochrome version with rainbow coloured cellophane and the later colour-display rerelease.

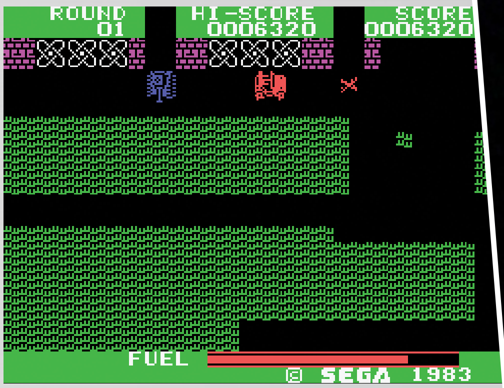
> **“The SG-1000 era is notable for constant refinement”**

the beginning of an intense rivalry between these two titans. While revisionist history would suggest that the SG-1000 was a flop from the onset and the Famicom reigned supreme, that's not the case. While the Famicom launched with superior hardware and a trio of recognisable games (*Donkey Kong*, *Donkey Kong Jr.* and *Popeye*), problems with a faulty circuit caused many initial units to freeze, resulting in a recall and a halt to production. Sega had expectation of selling 50,000 units in the first year, but partly due to its rival's misfortune, it sold three times as many, pushing 160,000 units into homes.

Sega didn't exactly skate through without any problems of its own, though, and the SG-1000 era is notable for constant refinement. In the first year, Sega released a short cable and socket to replace the original joystick. This was an important upgrade, as the original SJ-200 controller is notoriously rubbish.

Then, one year after its initial release, the SG-1000 received its first revision in July 1984 – the SG-1000 II or 'Mark II'. Taking cues from Nintendo, new joypads were designed to match the Famicom controllers, though they would retain optional stick attachments for the circular thumbpad. The keyboard expansion port was moved to the front, and the control ports were moved from the side to the rear. There were no upgrades to the internals, but revisions would replace several components, including the video processor, into an all-in-one chip,.

By the end of 1983, Sega had released 21 titles compared to Nintendo's nine, but by the end of 1984 it was more evenly matched with the SG-1000 coming in



» [SG-1000] *Borderline* was rereleased on the PS2 as part of the Sega Ages 2500 series.

at 32, versus the Famicom's 28. The competition was fierce and there is a great level of symmetry between the two libraries, which inevitably led to comparisons. The NES had smoother scrolling and more colourful sprites, while the SG-1000 struggled with juddering frame-rates and Spectrum-esque monochromatic sprites. The typical comparison is usually made between the Famicom's killer app *Donkey Kong*, and Sega's disappointing port of *Congo Bongo*. When *Bongo* was ported to the SG-1000, it would lose the arcade's isometric graphics, its key selling point: to show off a simpler game. This didn't win over fans and wasn't a match for Nintendo's *Kong*.

A better comparison between the two systems are their ports of Brøderbund's *Lode Runner*. Sega reprogrammed a faithful conversion of the Apple II game, retaining the original's single-screen graphics. Nintendo, on the other hand, would opt to let Hudson Soft adapt the game to better show off the Famicom's graphical capabilities. It zoomed in on the action, using larger, more detailed sprites, and used smooth scrolling to pan around the level. But more than this, Nintendo also demonstrated a greater willingness to work with



» *Borderline* was the first, and the 2008 Dreamcast rerelease of *Border Down* was the last – there's a nice symmetry in those bookends.

third-party developers. Sega wasn't as keen on getting too cosy with its arcade rivals, preferring to license and reprogram SG-1000 games itself. Nintendo had fewer qualms about courting third-party developers and proceeded to lock them into licensing deals and exclusivity agreements. Perhaps the biggest early win was securing the rights to popular Namco titles, such as *Pac-man*, *Mappy* and *Xevious*.

All was not lost though, as Sega still had an edge in the arcades. The SG-1000 library was boosted by ports of big hits such as *Zaxxon* and *Zoom 909*. Sega also fought back against the Nintendo/Namco alliance by licensing popular Jaleco titles, such as *Pop Flamer* and *Exerion*, and also obtained licences to manga and anime properties.

Sega also adopted strategies that would be echoed later in the Mega Drive era. There was a focus on sports game titles, published under the *Champion Sports* ▶



DOKI DOKI PENGUIN LAND
どきどきペンギンランド

1985

■ This series began life on the SG-1000. The cute puzzler stars a father penguin, who must carefully push an egg to the bottom of the screen where the mother waits. Much like real life, the parent's wellbeing is unimportant as the egg must be protected at all costs.



GULKAVE ガルケーブ

1986

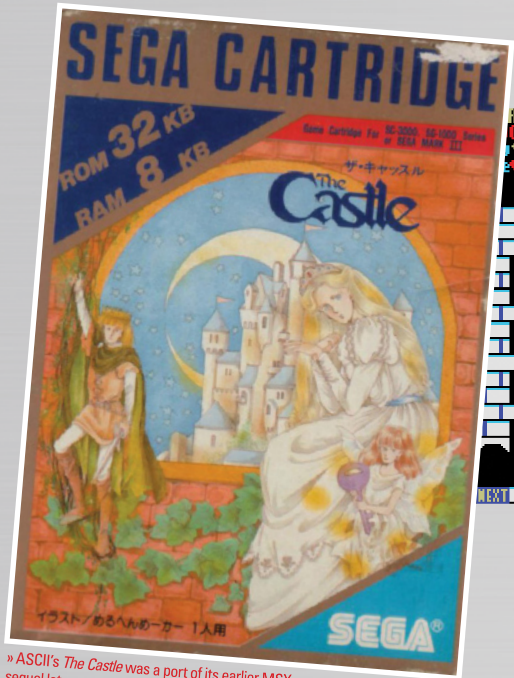
■ One of Compile's earliest shoot-'em-ups and a contender for the most graphically-impressive SG-1000 title, *Gulkave* features tight controls and fast gameplay, coupled with excellent and varied examples of parallax scrolling plus a kicking soundtrack. There isn't much to fault with this little gem.



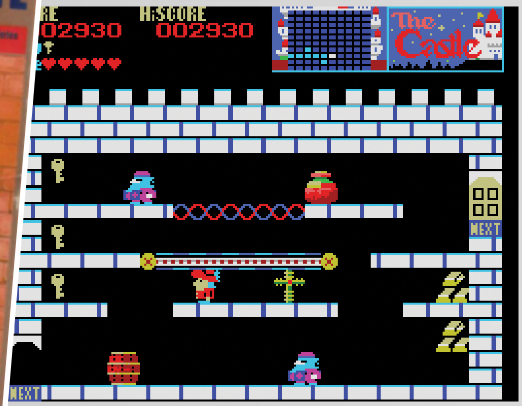
NINJA PRINCESS 忍者プリンセス

1986

■ A year before Samus was fighting the good fight for female warriors in gaming, Sega had beat Nintendo to the punch in this ninja-themed run-and-gun. The original arcade game is similar amd predates Capcom's *Commando*, but the tone and style is closer to later cute-'em-ups like *Pocky & Rocky*.



» ASCII's *The Castle* was a port of its earlier MSX game. A sequel later appeared on the MSX and NES.



» [SG-1000] *The Castle* is one of the more complex SG-1000 games, requiring plenty of exploration.

> **"Sega would look beyond Japan to find fans of the SG-1000"**

label. Nine titles were released in the series, including evergreen favourites such as *Baseball*, *Football*, and even *Kendou*. Some of these would be rebranded licences, like Logitec's *Super Golf* from 1981, while others were Sega originals. *Champion Boxing* was rising star Yu Suzuki's first project with Sega, featuring fantastically-detailed art by Rieko Kodama (of *Phantasy Star* fame). Sega also courted celebrity endorsement, using popular Japanese comedy duo 'Tunnels' to promote systems.

Looking beyond Sega's improved software lineup, Hideki Sato felt the physical media on which the games were released could also use an upgrade. He remarked that the original cartridges resembled small black tombstones when inserted into the console. His proudest achievement from the era was the development of a cheerier and more pocket-sized alternative – the Sega My Card – games on microchips embedded in 2mm thick credit-card-sized slices of plastic, with a separate Card Catcher required to plug the cards into the cartridge slot.

Introduced in 1985 with some rereleases of titles, the compact design allowed game collections to be carried from house to house. Sega even experimented with a rewritable EPROM version of the My Cards, which could be overwritten with new games at specially-equipped kiosks for a fraction of the usual retail cost, much like Nintendo's Famicom Disk System which arrived a year later. While Sega would eventually return to cartridges for higher memory capacity, NEC would later co-opt the My Card design for its PC Engine HuCards.

Sega would look beyond Japan to find more fans of the SG-1000, with the first wave of games even featuring boxes and instructions in both Japanese and English in preparation for a global audience. Grandstand Leisure sold rebranded Sega 1000s in New Zealand, and the SG-1000 II would also find a foothold across the East China Sea in Taiwan, distributed and rebranded by Aaronix.

In October 1985, Sega launched the SG-1000's successor, the Mark III system. Based on the cutting-edge System 2 arcade hardware, it was better equipped to stand toe-to-toe with Nintendo's Famicom. In a move that has been reused many times to retain brand loyalty, Sega ensured the Mark III was backwards compatible with original software, even sporting a dedicated card slot for the My Card format. Sega continued to package SG-1000 software in blue to indicate compatibility with both systems and would introduce red boxes to distinguish games that used the Mark III's advanced hardware.

Sega continued to release more SG-1000 games after the release of the Mark III, including such hits as *Wonder Boy* and *Hang-On II*. The last couple of games were *The Black Onyx* on in 1986, a port of Bullet Proof Software's very old school RPG, and a Sega-developed *Sherlock Holmes* game titled *Portrait of Loretta*.

In the end, Sega would be a distant second to Nintendo, and even with the superior Mark III hardware, only managed to carve out a 10 per cent share of the market. However, it also fended off all other contenders to hold on to that second place, and managed to sell about 2 million units worldwide. In a world where the Famicom didn't exist, these metrics would have led to the SG-1000 being regarded as a huge success, however it was overshadowed by Nintendo's own worldwide breakout.

The SG-1000 would fade from memory for many decades, as Sega and its fans looked towards the Mega Drive and Saturn eras for nostalgia. However, the 'underdog' status that Sega found itself in from the beginning would help to forge a passionate community around its history. In 2001, there would be several references to the SG-1000 in the parody game *Segagaga* on Dreamcast, including a cameo by the SG-1000 mascot Professor Asobin. *Astrododge*, while the first

RAREST GAMES

These will make your wallet tremble in fear…



PACHINKO パチンコ

ESTIMATED COST: £750+/$1500+

■ This is perhaps the most notoriously rare SG-1000 title. The game is a simulation of the gambling obsession. Its rarity can be attributed to its poor sales in the wake of *Pachinko II* being released afterwards. The 'sequel' is more like an update: it includes the basic table from the original, plus two variations.



SPACE SLALOM スペーススラローム

ESTIMATED COST: £500+/$1000+

■ Arguably rarer than *Pachinko*, *Space Slalom* is also the smallest SG-1000 game at only 8KB. The weight of evidence suggests that Sega ported an undumped and possibly unreleased arcade game by Eighties developer Orca. After going bankrupt (twice!), members from the Orca team would go on to form Toaplan.



SANNIN MAHJONG 三人麻雀

ESTIMATED COST: £50+/$100+

■ Due to its lacklustre sales, most of the Othello Multivision releases are hard to find and will set you back a bit, especially if you prefer to have your games CIB. *Sannin Mahjong* is perhaps the rarest, due to its less-than-exciting appeal and competition from two other *Mahjong* releases from Sega.

homebrew game in over two decades, was released by developers Revival Studios in 2013. In the same year, to commemorate the 30th anniversary, Sega commissioned a four-disc album featuring music from the SG-1000 and Mark III library. The heart and soul of SG-1000 collecting today is in the software (which is region free). While a Nintendo fan has the task of tracking down over 1,000 games for completion purposes, Sega fans need only concern themselves with 42 cartridges and 29 My Cards.

Looking at videogaming history broadly, you'd be forgiven for thinking that the Atari 2600 came first, followed by the Nintendo NES/Famicom. From this viewpoint, discovering the SG-1000 feels somewhat like finding the missing link. It bridges the gap between the purity of Atari, and the colourful and smooth scrolling Nintendo games that kickstarted the next generation. It comes from a period where Sega was just starting out – experimenting, developing its talent and finding its distinctive 'blue skies' feel. If you've got a penchant for simple thrills and a love for uncomplicated graphics, don't be afraid to dig in, the SG-1000 is worth exhuming. *

Thanks to Ross O'Reilly for research and translations.



» [SG-1000] *Phoenix Rie*'s large animated graphics in *Champion Boxing* are quite impressive, given the limited hardware

Q&A WITH YU SUZUKI

The legendary developer talks about his early days with the SG-1000

***Champion Boxing* was your first game at Sega (codeveloped with Yoshiki Kawasaki and Rieko Kodama). What was it like to develop the game on SG-1000 hardware?**

Ms Kodama was a freshman designer at the time she was assigned to the game. We started this project as a test, so at first Ms Kodama was the only designer. We were understaffed for designers, so I remember helping out doing the drawings for things like the jab, straight and uppercut motions.

Mr Kawasaki was assigned as the designer for the background audience. Despite the limited memory, he was able to portray a variety of pattern and colour changes. At that time, I was also in my freshman stage, so it was reassuring to have someone as able as Mr Kawasaki on the team. Later on, we put Mr Kawasaki's skills to good use designing bikes and [other elements] for *Hang-On*.

Was there any lessons learned in the development of *Champion Boxing* that you carried over to your future titles?

Championship Boxing was a minor project with a limited number of people working on it, so it gave me the opportunity to learn the game program flow, and how to interact with the other departments without too much pressure. If I did not have that familiarity with the whole of the process, I do not know if I would have been able to manage the larger projects like *Hang-On* which came right at its heels.

At that time with Sega, it was said that in order to become a project leader it would take at least seven years. Although it was a small project, I was promoted in my first year, and I believe that this success led me to the next game project. I thank Mr Yoshii, my boss, because if he hadn't given me the chance, I would not be who I am today.



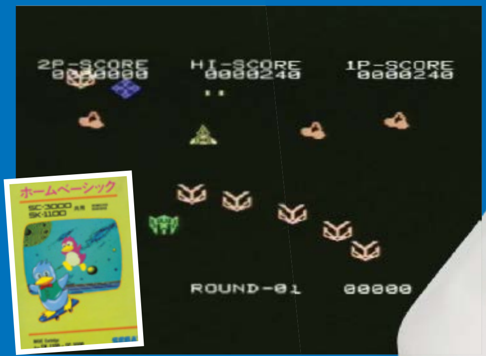
What is your opinion of the SG-1000 as a hardware platform to work on?

I have always approached game development by trying to squeeze the most performance out [hardware] as I can. With the SG-1000, memory was limited, so without getting creative, it was difficult to get it to stand out from other SG-1000 games.

When you're competing on a level playing field, I felt the strength of the software would be best expressed stylistically. Even from the start with making *Championship Boxing* for the SG-1000, my focus was on how far I could stretch the limits of the system. We were able to get details, like the facial expressions when the boxer got hit, to a point beyond other SG-1000 games.

People started thinking *Championship Boxing* could be used as is in arcade machines. So we stuck an SG-1000 in an arcade cabinet at a game centre as a test. The results were so positive, we even ended up managing that location.

Yu Suzuki is currently working on Shenmue III and you can support the campaign at: ***shenmue.link***



HOME BASIC ホームベーシック

ESTIMATED COST: £150+/$300+

■ There are a number of BASIC cartridges released for use with the SK-1100 keyboard attachment. They feature increasingly more advanced versions of Sega BASIC and larger amounts of RAM for writing, saving and loading programs to cassette tape. The one to look for is Home BASIC, one of the last revisions released in 1985.



THE RARE JEWELS FROM TAIWAN…

■ Taiwanese companies kept the SG-1000 alive long after official support dried up. Despite the initial popularity of the SG-1000 in Taiwan, the market soon was swamped by cheaper unlicensed 'Famiclone' hardware and software, so finding these games today, even in their native country, is quite a challenge.

20 GAMES THAT PUSHED THE LIMITS

RULES ■ Games must run on basic hardware – that means no add-ons or expansion modules ■ Games must have been commercially released during the hardware's active lifespan ■ Performance enhancing chips are banned (with one notable exception) ■ One example per platform – but we're not saying it's necessarily the best or only example

Whenever a manufacturer releases a piece of hardware, theoretical maximum capabilities are soon explained – but some coders just don't respect conventional theories, and drive exceptional performance from their host platforms. Nick Thorpe looks at notable examples from 20 of the most influential machines…



THE BEST **STARFIGHTER**

1. Solaris

■ CONSOLE: Atari 2600 ■ YEAR: 1986
■ DEVELOPER: Doug Neubauer



This positively shamed the space games that appeared on just about every competing platform of the time, with visuals that look like they should be impossible on Seventies technology. However, it's the sheer complexity of *Solaris* that is most astonishing – as well as the main pseudo-3D flight scene with distinct backgrounds and missions, there's a radar at the bottom of the screen and a star map to browse. All of that is simply incredible, considering that the Atari 2600 was designed around games like *Pong* and *Tank*.



» [Atari 2600] *Solaris* is an incredible feat of coding that plays just as good as it looks.

TWO-TONE **TERROR**

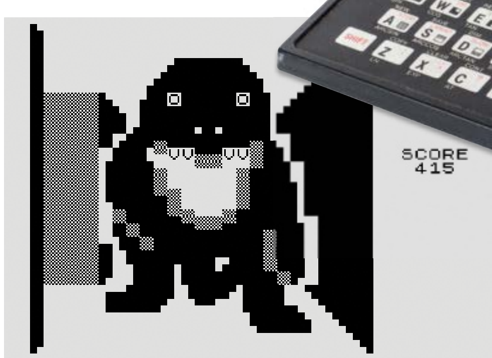
2. 3D Monster Maze

■ CONSOLE: ZX81 ■ DEVELOPER: Malcolm Evans ■ YEAR: 1982



On a system that was strictly limited to grey and black character graphics, Malcolm Evans managed to convey a sense of sheer terror by creating a gigantic tyrannosaurus and having it chase you around a first-person maze. With just three characters – a fully black block, a fully grey block and a cross-shaded block – a network of 3D corridors was brought to life on a system that was barely capable of drawing a character without pausing for thought. The responsive movement and surprisingly convincing dinosaur animation were all the more impressive for the limits of the hardware, too.



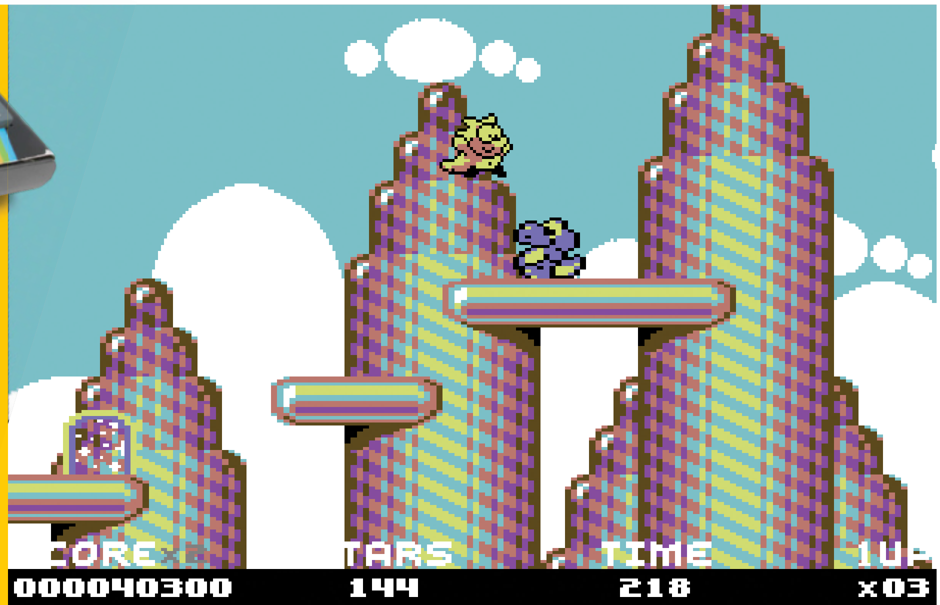






» [ZX81] Even today, Malcolm's masterfully programmed game terrifies us. We'd kill for a VR version.





SMOOTH LIKE A SNAKE

3. Cobra

■ CONSOLE: ZX Spectrum ■ YEAR: 1986
■ DEVELOPER: Ocean Software



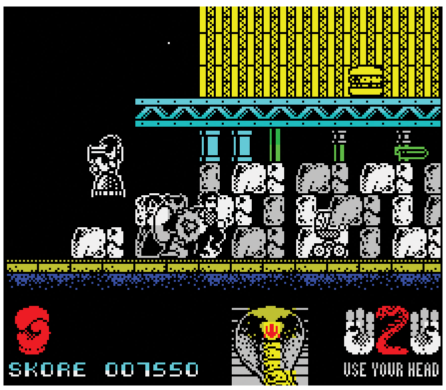
Sylvester Stallone's movie might not have broken new ground, but the Spectrum game did thanks to the talents of Jonathan 'Joffa' Smith.

■ **A stunning scrolling routine was developed for *Cobra* by the amazing Joffa Smith.**

■ Screens could be packed with well-animated sprites without a hint of flicker or slowdown.

■ **Superb use of colour, avoiding the lazy and dreary two-tone look.**

■ Joffa's slick technical skills meant that his arcade conversions such as *Hyper Sports*, *Green Beret* and *Mikie* also looked incredibly impressive.



» [ZX Spectrum] Jonathan was fantastic at squeezing every piece of power out of the Spectrum.

DINOSAUR DELIGHTS

4. Mayhem In Monsterland

■ CONSOLE: Commodore 64 ■ DEVELOPER: Apex Computer Productions ■ YEAR: 1993



» [C64] An astonishing looking game. Look out for a making of in issue 165.



For a C64 owner in the Nineties, it was easy to be jealous of the slick action of console platform games. In an era when Sonic and Mario ruled, every format needed its own take on the formula – but Steve and John Rowlands didn't just ape the style, they managed to coax that same performance out of the ageing 8-bit machine.

The dinosaur could run at an incredible pace, and the coders exploited a bug to achieve smooth full-screen scrolling that never struggled to keep up, even with parallax. The game also deployed every colour a C64 could display, plus a few that were outside of its remit.

DON'T CALL IT A...

5. Gimmick!

■ CONSOLE: NES ■ DEVELOPER: Sunsoft ■ YEAR: 1992



When Sunsoft wanted to create a platformer to rival Super Famicom games, it didn't just throw a few resources at the project – it chucked everything it could at Nintendo's 8-bit platform, including the brand-new Sunsoft 5B chip. The hardware in question was based on the FME-7, which allowed for lots of bank-switching fun already, but added a whole new audio chip in the form of the Yamaha YM2149F. Not only does the game look great, it sounds unlike anything else on the console – in fact, the music far closer to 16-bit chiptunes.

PLAYING WITH POWER

■ Why does the NES get a pass when it comes to enhancement chips? Well, the limitations of the console meant that chips were deployed with frequency. Disqualifying games based without these would leave us with few choices.



» [NES] You can't hear it here, but the soundtrack is incredible.

A WINNING LOOK

6. No Second Prize

■ CONSOLE: Atari ST ■ DEVELOPER: Thalion ■ YEAR: 1992



Jack Tramiel's 16-bit computer might not have been designed for 3D games, but you'd never have guessed it when looking at Thalion's work. *No Second Prize* originated in 1989 when the German software house created an astonishingly-fast 3D routine, and by early 1990 it had taken the form of a futuristic racing game that was advanced enough to show off in *ACE*. However, a series of changes requested by Thalion's management eventually turned the game into a rather more straightforward motorbike racer. Whether or not as a result of that reduced scope, *No Second Prize* runs at an astonishing speed and frame-rate for a 3D game on any 16-bit platform. Fully-polygonal scenery and racers positively zoom past you, and it remains a rare early example of 3D gaming where the visual technology stands the test of time. While it's also on the Amiga, the ST version is the one to get – between being the lead platform and the ST's natural advantage in 3D games, it'll maintain a higher frame-rate when stressed.







HEAR THE AMIGA ROAR

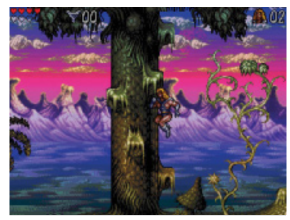
8. Lionheart

■ CONSOLE: Amiga 500 ■ DEVELOPER: Thalion ■ YEAR: 1992



Henk Nieborg's 2D artwork is always a joy to behold, and Thalion's programming knowhow allowed the Amiga 500 to disregard the limits of the chipset and display stunning colourful images. *Lionheart*'s sprite animation is also fantastic. Here's how the game stacks up against the theoretical maximum colour output of its contemporaries…

Atari ST	16 colours
Amiga 500	32 colours
Mega Drive	64 colours
Lionheart	186 colours
SNES	256 colours





WELCOME TO THE LIMIT

7. Space Harrier

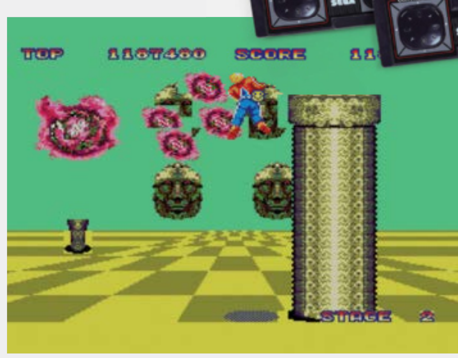
■ CONSOLE: Master System ■ DEVELOPER: Sega ■ YEAR: 1986





In the arcades, *Space Harrier* chucked massive sprites all over the place at lightning-quick speed and without a hint of struggle. The Master System can't match the speed of the arcade game, obviously, but you'll notice that the sprite flickering that plagues many games on the system is completely absent, despite the fact that each object is huge. How is this possible?

The solution comes with the use of background tiles – you can draw these without penalty, meaning that no matter how many enemies and objects show up on screen, nothing disappears. Of course, this approach comes with caveats. The use of background tiles means that objects have to move at least eight pixels at a time, and of course they can't overlap each other like sprites can, leading to the blocky border effect around each of the sprites here.



» [Master System] It's slow, but still damn impressive to play.







PURSUING PERFECTION

9. Chase H.Q.

■ CONSOLE: Amstrad CPC 464 ■ DEVELOPER: Ocean ■ YEAR: 1989



This arcade conversion proves that with the proper attention from coders, the Amstrad was amazing.



- **Mode 0 graphics show off the Amstrad's superior colour handling ability**
- Retains all the action of the arcade game, including jumps, turbo boosts, road forks and obstacles
- **A good sensation of speed is retained, and object scaling is handled excellently**
- The game even retains digitised sound effects and speech from the arcade version!

DRIVING THE CROWD BANANAS

11. Donkey Kong Country

■ CONSOLE: SNES ■ DEVELOPER: Rare ■ YEAR: 1994



How good did *Donkey Kong Country* look on release? So good that people didn't believe it was running on a SNES. After all, detailed 3D characters were running around against detailed 3D backgrounds – how could it be? These days we know that it was prerendered, but it's still a staggering achievement. For a start, Rare didn't use any extra chips – and even when you discount the Super FX, lots of SNES games did (*Super Mario Kart*, *Street Fighter Alpha 2* and more all did so). What's more, the developer had to construct scenes carefully. With a maximum of 16 colours per tile, too much detail would result in muddy and indistinct images. Plus, considering all of the unique backgrounds and animation in the game, you'd think it'd be a huge cartridge – but Rare managed to fit it into 32 megabits, which isn't nearly the largest commercial SNES release.









BIG THINGS IN SMALL PACKAGES

10. Pokémon Gold & Silver

■ CONSOLE: Game Boy ■ DEVELOPER: Game Freak ■ YEAR: 1999



» [Game Boy] This is one of the GB games that were colour-enhanced.



If you've ever wondered how so much fit into a single Game Boy cartridge, thank the late Satoru Iwata – his graphical compression technology allowed for the following…

- **Over 250 creatures can be battled, caught, raised and traded.**
- As well as a whole new world with its own cities, it includes the original Kanto region.
- **The game foregoes the extra RAM of the Game Boy Color for monochrome compatibility.**
- The Japanese version used an eight megabit cartridge – the same size as *Pokémon Yellow*.







SOFT LOOK, **HARD CODING**

12. Panorama Cotton

■ CONSOLE: Mega Drive ■ DEVELOPER: Success ■ YEAR: 1994





When the *Cotton* series switched from horizontally-scrolling action to *Space Harrier*-style 3D shooting, the Mega Drive might not have seemed like the ideal platform for the job – after all, it has no sprite scaling abilities. *Panorama Cotton*'s routine to handle this was surprisingly good, but that wasn't all that was impressive about this 16-bit blaster. Success pulled off all sorts of tricks to convey a convincing 3D effect. Road effects were abused heavily – they were drawn both above and below the character for indoor tunnels, and ramps could even come off these in order to simulate multiple levels of action. Standard 2D backgrounds with parallax were used to show off lateral movement, and big background shifts occurred multiple times per stage.

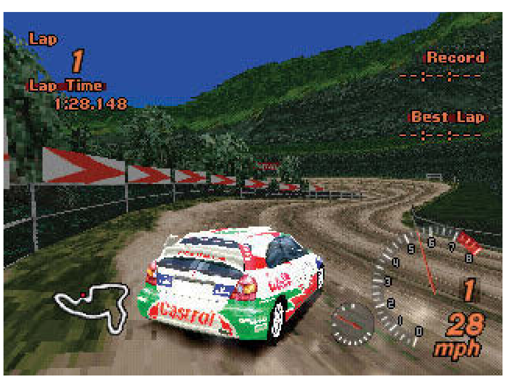
OVERDRIVE

13. Gran Turismo 2

■ CONSOLE: PlayStation ■ DEVELOPER: Polyphony Digital ■ YEAR: 1999



The original *Gran Turismo* had been developed using Sony's 'Performance Analyzer', and according to Polyphony Digital's Kazunori Yamauchi, the realistic racer was only using 75 per cent of the PlayStation's full potential. The sequel set about utilising the remaining untapped potential and had some success, but ended up showcasing the limitations of CD-ROM technology more than anything else – the sheer amount of content in the game signposted the impending need for bigger discs.



» [PlayStation] Polyphony's racing game really pushed Sony's console.

THE BEAUTIFUL **DISASTER**

14. Burning Rangers

■ CONSOLE: Saturn ■ YEAR: 1998
■ DEVELOPER: Sonic Team



If you know anything about the Saturn's capabilities, you probably know that it's not great at 3D games. Sonic Team will have known that too, but as a team that rarely had much regard for the theoretical capabilities of Sega's consoles, it went all-out for *Burning Rangers* to give the Saturn a pretty spectacular send-off.

This firefighting game displays vast, fully-textured 3D environments that stretch the VDP1 polygon generator to its limit (quite literally, as it visibly struggles to keep everything together) and uses the VDP2 to generate truly transparent (albeit low-resolution) objects including flames, water, windows and light shafts. What's more, a dynamic lighting effect rarely seen on the Saturn allows for torchlit sections and spectacular fires.



» [Saturn] Sadly, the UK version of *Burning Rangers* is becoming more and more expensive.





PLEASURE IN PAIN

15. Sin & Punishment

■ CONSOLE: N64 ■ YEAR: 2000
■ DEVELOPER: Treasure



Treasure is a developer known for its technical wizardry – after all, this is the team that made waves with crazy scaling effects in *Gunstar Heroes*. However, its first two N64 games didn't live up to that reputation. *Mischief Makers* and *Bangai-O* were both very good games, but people had hoped to see Treasure deliver a blowout 3D extravaganza.

In the end, the team didn't disappoint. *Sin & Punishment* never left the Japanese market but the game became renowned for its stunning visual prowess. The *Cabal*-style shooter was fast and smooth, but also vastly detailed – the artists had to strike a balance between model complexity and texture usage, because the machine was prone to slowing down when overloaded. When the final results were achieved, even Nintendo's producer Hitoshi Yamagami wondered how it was even possible on the N64!



» [N64] One of the most gob-smacking games we've ever played. It still looks astonishing today.



GOING OUT WITH A **BANG**

16. Under Defeat

■ CONSOLE: Dreamcast ■ DEVELOPER: G.Rev ■ YEAR: 2006



This late Dreamcast game shows a glimpse of what its later games could've looked like…

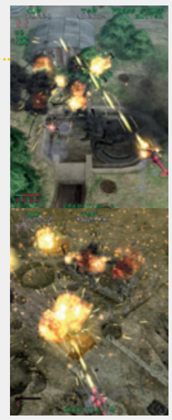
■ **High-resolution textures and detailed 3D models, running at 60 frames per second.**

■ Explosions featuring sparks, particle effects and multiple dynamic smoke trails.

■ **The explosions even have their own physics, with the force of each blast affecting nearby trees and smoke.**

■ Other amazing effects include the likes of real-time reflections and weather.

■ **It was ported to Xbox 360 and PlayStation 3 with the same models and textures!**



A **TOWERING** ACHIEVEMENT

17. Shadow Of The Colossus

■ CONSOLE: PlayStation 2 ■ DEVELOPER: Team ICO ■ YEAR: 2005





When you play Fumito Ueda's giant-slaying game, you'll notice that it's amongst the most beautiful games on the system – but also one of the most technically demanding. The PS2 struggles to cope with it and often fails to hold a consistent frame-rate. What's *Shadow Of The Colossus* doing to cause so much strain? Firstly, it's unusual amongst PS2 games in that it relies heavily on texture mapping to create detail on the enemies – and with only four megabytes of video RAM, one of the PS2's biggest technical deficiencies was handling texture maps. *SOTC* makes economical use of the limited memory by using low-colour textures and repeating them where it can. Of course, that's not the only factor – as you may suspect, the huge models and open environments needed to accommodate them also tax the prowess of the console.

A FEAT FOR THE AGES

18. Otogi 2

■ CONSOLE: Xbox ■ DEVELOPER: From Software ■ YEAR: 2003



Who needs *Dark Souls*? From has been impressive for years now

■ **The Xbox's main technical issue was a low pixel fill rate, leaving little overhead for special visual effects after drawing a scene.**

■ An astonishing translucent trail of light follows the arc of your weapon after every swing.

■ **Sparks fly, enemies shatter into particles and radiate light as they're defeated, creating a stunning display of virtual pyrotechnics.**

■ Each stage is filled with destructible objects, allowing you to smash down the scenery as you take out enemies.







WARP FACTOR

20. F-Zero GX

■ CONSOLE: GameCube ■ DEVELOPER: Amusement Vision ■ YEAR: 2003



F-Zero X was a game of compromises. It ran at a smooth 60 frames per second and was *fast*, but you could see where that impacted the rest of development – crafts were basic and trackside detail was minimal. It was beautiful in motion, but still screenshots were unconvincing. The Gamecube follow-up, *F-Zero GX*, had no such trouble.

Somehow, Sega's Amusement Vision team ensured that not only did the game run at 60 frames per second, but that not a single corner was cut with the look of the game – detailed textures and complex 3D models meant that the game looked immaculate at all times. We can only guess at how quickly data was being shifted around the GameCube, and we can only imagine that it's pretty close to the breaking point.



PRACTICAL EFFECTS IN YOU HAND

19. Stuntman

■ CONSOLE: Game Boy Advance
■ DEVELOPER: VD-Dev ■ YEAR: 2003



Nintendo delivers a powerful 2D handheld, awkward coders try to make 3D games. Here's a racer that actually succeeded!

■ **Unlike other GBA 3D games, resolution and frame-rate are not compromised.**

■ The core team consisted of just two people: Fernando Velez and Guillaume Dubail.

■ **It's a fully-textured 3D driving game on the Game Boy Advance!**

■ A conversion of a PlayStation 2 game with surprisingly similar results.







Blitz Games Studios

For 23 years, Blitz Games Studios in its various guises was one of the UK's most important independent developers, selling millions of pounds worth of games. Founded by Philip and Andrew Oliver it was quite the dizzying journey, as David Crookes explains

During the Eighties, Philip and Andrew Oliver quickly made a name for themselves, not only for the quality of the games they made, but the sheer number of titles they managed to develop. They had a hand in designing or coding an astonishing amount of 8-bit games and, of those, 14 shot to the top of the Amstrad CPC charts while 12 took number one on the Spectrum.

Their games were both innovative and recognisable, finding a path into millions of homes courtesy of Codemasters – the publisher with which the brothers had formed a bond with. They worked closely from their own home like the typical bedroom coders of the day, but as games became more complex, they realised small teams were no longer feasible. By 1990, they were ready to step up to the next level.

The Oliver twins as they were known were 22 years old when they set up a company called Dizzy Enterprises in 1990. It took the name of the egg-shaped character which, up until that point, had starred in three very popular adventures: *Dizzy*, *Treasure Island Dizzy* and *Fantasy World Dizzy* as well as a spin-off called *Fast Food*. They hoped to become a larger developer, commissioning other coders, designers and artists to help them produce new games which they could then allow Codemasters to publish.

The company's first title was *Kwix Snax*, an arcade-style maze game starring *Dizzy* which was designed by the Olivers yet coded by Lyndon Sharp. Following its successful release, Dizzy Enterprises branched out into subcontracting. *Magicland Dizzy* became the first *Dizzy* game that wasn't entirely designed by the Olivers,



» The team taking a well-deserved rest in its final year.



» [Mega Drive] *Fantastic Dizzy* is notable for a number of minigames that appear within it.

the reigns having been handed to Big Red Software. The arrangement suited Philip and Andrew because it enabled them to oversee more games than ever before.

"We recognised we'd have to move to 16-bit machines, like the Atari ST, Amiga and Mega Drive and that these would require a small team," says Philip, who adds that the Dizzy Enterprises name never appeared on games, with the only branding used being 'The Oliver Twins'. "We'd outsourced to individuals working from their homes but the remoteness was becoming a little bit tricky and we decided it was time to either set up a team in an office or join someone else's, which would have meant becoming employees of Codemasters. We felt we had enough financial security to set up our company and employ people."

Dizzy Enterprises moved to offices above a shoe shop in Leamington Spa in January 1992. They shared the space with another entrepreneur, Peter Williamson, who had formed Supersonic Software and who had worked with the twins on *Fantastic Dizzy*. "We invited some of our subcontractors to work for us directly as employees in our new office," says Philip. The team began to grow with Lyndon Sharp, Paul Griffiths, Khalid Karmoun, Mark Bell and Damon Redmond all joining.

Always exceptionally ambitious, they knuckled down to create and convert numerous games and it wasn't all about *Dizzy* either. *FireHawk*, *Robin Hood*, *BMX Simulator*, *DreamWorld Pogie* were all created for the NES. Yet the sheer number of games being created wasn't translating into a good flow of cash. Camerica, upon which the company was relying for revenue for North America, went into liquidation and failed to pay Codemasters and, in turn, Dizzy Enterprises.

> **"We recognised we'd have to move to 16-bit machines"**
> Phillip Oliver

Money began to run out and a difficult decision eventually had to be made. Dizzy Enterprises decided to sever ties with Codemasters and look for other publishers. "We started to approach other publishers, but because Codemasters owned some rights in *Dizzy*, we also had to rename our company," says Philip. "Together with our small team, we decided upon Interactive Studios." The first move was to print business cards, produce a company portfolio and head off to the January 1994 Consumer Electronics Show in Las Vegas, but despite their wealth of experience, the twins found the going tough. Coming back empty handed, they received help from the former literary agent, Jacqui Lyons.

Jacqui had set up a company called Marjacq Micros in 1983 to represent game developers. Her clients included Ian Bell and David Braben, the creators of *Elite*, and she threw the Olivers a loan of £20,000. This was enough to pay the rent on their office, bills and, of course, the staff. Things improved further when Fergus McGovern from Probe Software asked them to convert the side-scroller *Judge Dredd* to the Master System, Game Gear and Game Boy. This became the newly-named firm's first release, and while it wasn't easy porting a game from the 16-bit to the 8-bit consoles, Lyndon and Paul got on with the job. Andrew meanwhile took up the challenge of completing ▶

INSTANT EXPERT

- Prolific 8-bit game developers Philip and Andrew Oliver formed their own company aged 22.
- **Interactive Studios, or Blitz Games as it later became known, worked on conversions including *Theme Park* and *Syndicate* for Bullfrog.**
- *Firo & Klawd* on the PlayStation and PC was Blitz's first original creation in 1996.
- **Blitz bagged a contract with the film studio MGM and made *WarGames* in 1998.**
- Blitz is well known for producing games based on franchises such as *SpongeBob SquarePants* and *Bratz*.
- ***Reservoir Dogs* was released under the Volatile Games label: it was banned in Australia for its realistic violence.**
- Blitz also had a serious games division called TruSim which released the award-winning Interactive *Trauma Trainer*.
- **Blitz created three games for *Burger King* which were sold in US restaurants and shifted 3.7 million copies on the Xbox and Xbox 360.**
- The company also had its own cross-platform game development tool used by indies and large studios called *BlitzTech*.
- **The Olivers helped form the videogame trade association TIGA in 2001.**
- The Olivers were awarded Honorary Doctorates in November 2008 from Coventry University.
- **The twins created and promoted British development under the banner Made In Creative UK.**
- The Oliver twins are also fellows of the Royal Society of Arts, Manufactures And Commerce.
- **Blitz employed 235 people at its peak and had an annual turnover of £10 million.**
- Blitz developed 68 different titles – 152 games across various formats.
- **An estimated 43 million Blitz games were sold.**



TIMELINE

1990 ■ Dizzy Enterprises is established by Philip and Andrew Oliver, working from home in Trowbridge, making games exclusively for Codemasters.

1991 ■ The Olivers move to Leamington Spa and develop *Fantastic Dizzy* on the NES.

1992 ■ After working from their home, the company moves to an office in Warwick Street, Leamington Spa.

1994 ■ Ending its relationship with Codemasters, the company is renamed Interactive Studios Limited.

1995 ■ *Judge Dredd* is released on the Master System, Game Gear and Game Boy for publisher Acclaim.

1996 ■ Now with 15 staff, the developer releases its first original PlayStation game, *Firo & Klawd*.

1998 ■ Having moved offices to Bedford Court, the team release *Glover* for the Nintendo 64, Windows and PlayStation consoles.

1999 ■ The company is renamed Blitz Games. It employs 100 staff members.

2000 ■ Blitz concentrates on licences such as *Action Man*, *Chicken Run* and *The Mummy Returns* and produces a sequel to a classic: *Frogger 2: Swampy's Revenge*.

2001 ■ Party game *Fuzion Frenzy* becomes a launch title for the Xbox.

2003 ■ After games based on Disney's *Lilo & Stitch* and the *Looney Tunes* character Taz comes *Barbie And Bad Boys*.

2005 ■ *Pac-Man World 3* is released on all formats at the same time.

2006 ■ Volatile Games becomes Blitz's mature games division, creating *Reservoir Dogs*.

■ Blitz Arcade is established, developing digital download games for the Xbox 360 and PS3.

2007 ■ Blitz1UP program formed to help indie developers publish their games.

2008 ■ Blitz Games is renamed Blitz Games Studios.

2009 ■ *Invincible Tiger: The Legend Of Han Tao* becomes the first stereoscopic 3D console game.

■ Puzzler *Droplitz* becomes a popular Xbox Live Arcade title.

2011 ■ Blitz1UP is replaced by the distribution portal IndieCity and the company employs 235 staff.

2012 ■ *Puss In Boots* and *Epic Mickey 2* are released for various home systems.

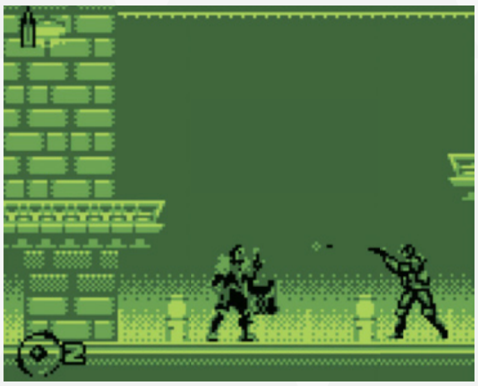
2013 ■ Blitz Games Studios ceases trading.

▶ Domark's *Marko's Magic Football* on the Mega Drive and Mega-CD, followed by converting two Bullfrog games, *Syndicate* and *Theme Park* to the Mega-CD.

"We'd heard Sony was going to launch its own console, the PlayStation," says Philip. "And through Jacqui we were lucky enough to get an early dev kit. We were blown away by the specs. It was programmed in C and we set our sights on being *the* developer for character games on the PlayStation."

The company started by converting *Creature Shock* to the PlayStation and Saturn, and this gave it the opportunity to design an original title for Sony's console called *Firo & Klawd* which it had signed with BMG.

It was a bold move by a company which had money troubles since the stranglehold of Nintendo and Sega was firmly established. "When we showed our early demos to publishers, most were very quick to dismiss this new console, saying there was no way a TV manufacturer would be able to compete with Nintendo and Sega. Acclaim completely dismissed PlayStation and that led to their demise." Thankfully for the Olivers, it was the making of Interactive Studios and they put lots of effort and enthusiasm into *Firo & Klawd*.



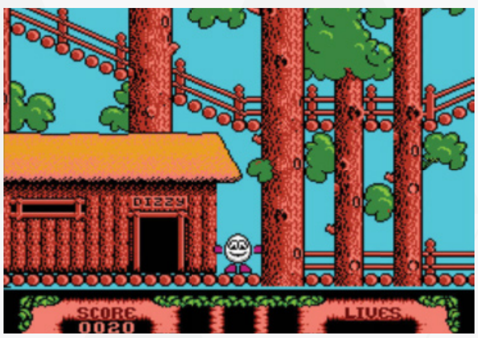
» [Game Boy] The first game by Interactive Studios was *Judge Dredd* and it helped get the company moving post-Dizzy Enterprises.

"It was a new, original game, something we'd always been used to producing," Philip says. "With the advent of CD storage, and a much more powerful console, we decided to produce a creative 3D isometric cartoon game, but less cute as they had weapons." *Firo & Klawd* was a comic take on the 'buddy cop' movies like *Beverly Hills Cop*, *Dragnet* and *Lethal Weapon*. "On securing a development contract we needed to expand our team and used more traditional routes of advertising, and recruitment agencies to find talented game developers," Philip continues.

The new era meant Interactive Studios couldn't be as prolific as the Olivers had been on the 8-bit systems. Games took many more months to create. A case in point was *WarGames: Defcon 1* which was published by MGM Interactive and boasted a huge team, with Philip as project manager and Andrew as lead PlayStation programmer. Inspired by the film of the same name, it had a two-player co-op mode and 30 levels, all in glorious 3D for the PlayStation and PC.

"MGM approached us to make the game after being impressed by *Firo & Klawd*," says Philip, his company's reputation having grown. The team was commissioned to make another game for MGM called *Dragon Sword* which only got to alpha and was never published due to the cost of N64 cartridges, but nevertheless the developer was on a roll. "The small team of 12 people who had worked on *Firo & Klawd* was split into three teams and each were given autonomy to hire developers as they required them," Philip continues. There was also time for innovative thinking. "*Dragon Sword* was our own original idea and so was *Glover*."

Five Defining Games



FANTASTIC DIZZY

VARIOUS, 1991

■ This game was created in the earlier years of The Oliver Twins' company, at a time when it was called Dizzy Enterprises. It starred the infamous walking, talking tumbling ovoid hero in his first appearance on the NES, and while legal shenanigans between the Codies and Nintendo over the Game Genie delayed its release, the game's sprawling, colourful 2D world and familiar pick-up-and-play nature won it a legion of fans. The lack of a save feature was frustrating at this point in Dizzy's history but with the familiar Yolkfolk present and correct and 250 stars to collect, it was a great introduction for newbies and a wonderful addition for stalwarts.



GLOVER

VARIOUS 1998

■ Imagination was seen to run wild in *Glover*, a game which had players steering a ball across 30 stages using little more than a magic glove. Designed to exploit the Nintendo 64's hardware, it was inspired by crazy golf and it was the first game by Interactive Studios (as it was then) to use full-3D characters with internally rigged skeletons. The ball could change size, veering from a large and light beach ball to a heavy bowling ball, a small ball bearing and a fragile crystal ball, and this set up a number of different brainteasing puzzles to work through – all soundtracked by a cool and mellow score.



» [Mega Drive] Interactive Studios worked on a number of games on the request of other publishers including *Marko's Magic Football*.

The latter game was published by Hasbro and it was very successful.

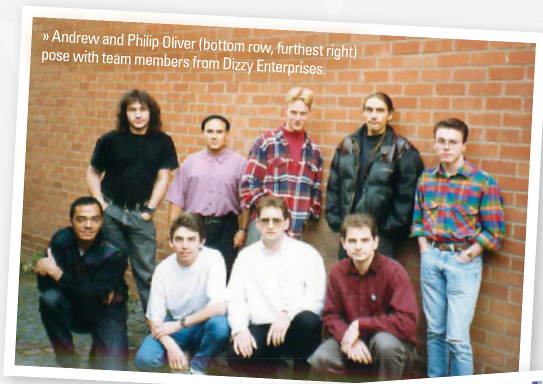
"The relationship with Hasbro led to lots more games with them including *Frogger 2* and the *Action Man* games," Philip says. "They were a great publisher with many really amazing people, but around 2000 it all fell apart and, what was left, was sold to Infogrammes."

At this time many film and TV companies had come into the market, attracted by the new CD medium of games and the publicity that Sony created on the PlayStation. "With each team hiring, our company was rapidly expanding," says Philip. "It meant our budgets were also higher, but that meant higher risks too. Publishers were turning to popular licences that would require less marketing spend and we got a reputation for being able to deliver great games, on schedule." Certainly, games had become huge corporate investments and millions of dollars were at stake. It was harder to break new IP without great amounts of cash.

"We had grown to almost 100 employees and moved to a larger office, still in Leamington,"

"Our budgets were higher, but that meant higher risks too"

Phillip Oliver



» Andrew and Philip Oliver (bottom row, furthest right) pose with team members from Dizzy Enterprises.

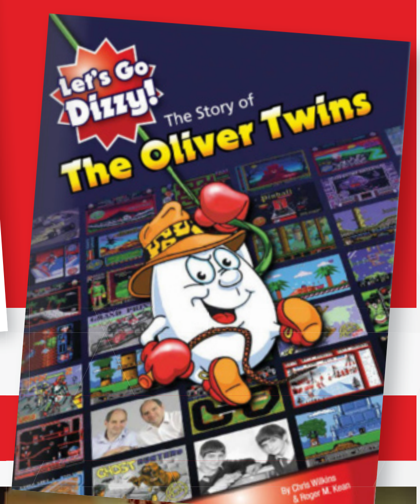


» The development team hard at work in 1998 at what was then called Interactive Studios.

A DIZZYING CAREER

The Olivers started to write games at the age of 12, creating their first published title on the BBC Model B. But it was their work with Codemasters which saw them rise to prominence. Their debut game for the Codies, *Super Robin Hood*, became their first number one shortly after release in October 1986. In their new book, *Let's Go Dizzy* by Chris Wilkins and Roger M Kean, the brothers look back over their first decade in gaming. Officially launched on 15 December at the National Videogame Arcade in Nottingham, it tells of how, at their peak in 1987, they were creating seven per cent of all games sold in the UK. "When computers were simple 8-bit machines with just around 30k of memory we were able to do most of the game development work ourselves and from home," Philip says.

Let's Go Dizzy: The Story Of The Oliver Twins, is out now. Order it from fusionretrobooks.com

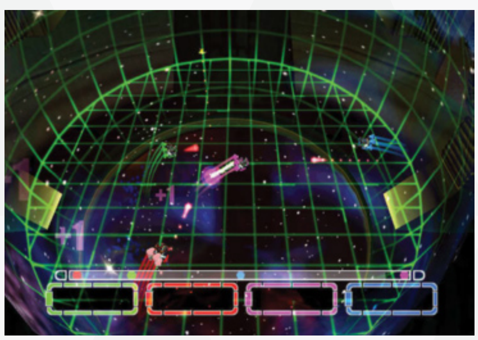




FROGGER 2: SWAMPY'S REVENGE

VARIOUS, 2000

■ Blitz's output was peppered with franchises, with a flood of games based on movies and toys that started with *Judge Dredd* in 1995 and included *Chicken Run*, *The Mummy Returns*, *Barbie*, *Bad Boys* and *Bratz*. Two leapt out for having been based on past games, though: *Pac-Man World 3* in 2005 and *Frogger 2* five years earlier. The latter showed how well *Frogger* could play in 3D and it was packed with 30 enemy, trap and puzzle-strewn levels. It certainly had all of the hallmarks of the original's gameplay while throwing in extra characters, bonus retro levels and an impressive in-game storyline – for a *Frogger* game, at least..



FUZION FRENZY

XBOX, 2001

■ While some developers who began working in the Eighties struggled to make an impact post-PlayStation, Blitz's investment in new talent ensured it stayed the course. It appeared to find a niche as a family-friendly developer, so while the multiplayer party game *Fuzion Frenzy* was by no means a jaw-dropping technical triumph, it sold more than enough to eventually spawn a sequel. The game was a launch title for the original Xbox and it was made up of a series of 45 minigames, allowing up to four players to amass as many points as possible. It cut away the faff and plunged players straight into the action, ensuring a fast and frenzied blast.



INVINCIBLE TIGER: THE LEGEND OF HAN TAO

PS3, XBOX 360, 2009

■ Taking the gaming world by surprise in 2009, *Invincible Tiger* roared into the fledgling 3D market as one of the first stereoscopic console games. Blitz had already toyed with the third dimension when it allowed players to use the familiar red-and-blue glasses while enjoying its 2002 game *Taz Wanted* on the PS2. But this was different: the effect of wearing polarised 3D specs lent real depth to the screen and delineated the game's planes. Even so, for all of the futuristic styling, the game harked back in time, presenting itself as a 2D affair which drew influence from retro beat-'em-ups.







Philip continues. "But in 1999, we decided that our company name, Interactive Studios, was too generic and we wanted a new name with a vibrant personality. Many of our potential customers were using 'Interactive' in their names and whilst we were first, it looked like we were copycats, and a Google search was never going to find us. There was Hasbro Interactive, Fox Interactive, Warner Interactive, MGM Interactive and so on, so we came up with Blitz Games. Blitz had a dynamic sound and was very memorable and served us very well."

Blitz took a deliberate direction of games based upon recognised characters, primarily from the world of film. It worked with Disney Interactive to develop *The Little Mermaid II: Return To The Sea*, while it purchased the rights to *Chicken Run* and sought distribution through Eidos & 3DO. It also undertook development of *The Mummy Returns* for Universal Interactive. "Everyone assumed we got to see the films we made the games of, but in reality we saw very little," says Philip. "Studios are so precious about their movies and they only really came together very late in the day. For *Mummy Returns*, we only ever saw a plain font script. The game was mastered and displayed at E3 in May 2001 the same week the film was released. People were coming onto the stand comparing the game to the film, but none of the developers had ever seen a single frame of the film. The only reason we were able to get some scenes looking similar to the film is because we bought a copy of *The Mummy* from Woolworths and several of the artists went to the British Museum.



» [Xbox] Blitz grabbed many film licences including *Bad Boys II*, although this one wasn't well received.

Many independent teams helped Blitz have a prolific run in the Noughties; from *Lilo & Stitch: Trouble In Paradise* to *Taz: Wanted*. Parents and children could walk into a games store and find something that was instantly identifiable. Licences are nothing new, of course, but Blitz cornered the kids market with gusto.

Not that Blitz gave up on original games, though. The party game *Fuzion Frenzy* brought together 45 minigames, published by Microsoft Games as an Xbox launch game. Meanwhile, *Zapper: One Wicked Cricket* introduced a new insect hero. But there was still a lot of room for tie-ins such as *Bad Boys: Miami Takedown* and games based on toys: *Barbie Horse Adventures* and *Bratz: Rock Angelz*."

Blitz stuck to this path for a while. "We had to keep with popular licences to a large degree because most developers that attempted original games went out of business as they couldn't find funding from publishers and they couldn't afford the massive costs of self-publishing on consoles," says Philip. "Pretty much the only funded development work, and the only way to survive, was to use licences, so we moved with the market. We became very well known for kids games and licensed cartoon games. We became typecast."

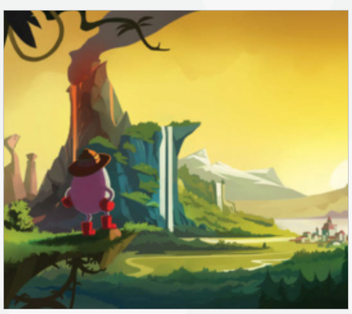
Even so, there was also time for dusting off old classics such as *Pac-Man* which formed the game *Pac-Man World 3*. "We managed to secure a contract to develop *Pac-Man World 3* for Namco on PS2, Xbox, GameCube, PC, PSP and DS. We subcontracted the DS version to Humansoft, a company we used back at Codemasters to produce *Fantastic Dizzy* on PC. Overall the game turned out well and we were pleased with it. As with all our games, there were things we wish

The DNA of Blitz Games Studios



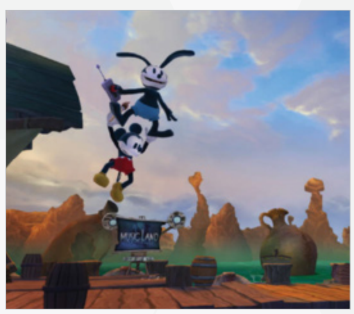
THE OLIVER TWINS

■ Even though the company went on to employ dozens of people – 175 when the company closed and 235 at its peak – the two brothers who formed the company, Philip and Andrew Oliver, remained the faces of Blitz throughout. Their infectious enthusiasm and insistence on Blitz remaining an independent developer gave them and COO Richard Smithies ultimate control over the games that were developed.



A LITTLE EGG

■ The entire company was built on the foundations laid by the *Dizzy* series and the Olivers say Blitz's subsequent titles encompassed the same fun, challenging and rewarding principles as their most famous creation. A Kickstarter project in 2012 hoped to resurrect the character in *Dizzy Returns*, with former Blitz staff earmarked to create it. Unfortunately, it failed to raise enough cash.



POPULAR FRANCHISES

■ Most of Blitz's games were based on major brands from the world of entertainment, and it was necessary to pull off such deals in order to keep a healthy amount of money rolling in to the bank. Creating games such as *Action Man*, *The Little Mermaid II*, *The Biggest Loser* and *Epic Mickey 2: The Power of Two* added the benefit of recognised names and allowed Blitz to flex its muscles in other areas.



VARIOUS OFFSHOOTS

■ The company seemed to have fingers in lots of different pies, creating various sub-companies to develop a variety of games. It looked to support fledgling developers such as Binary Tweed which produced the political platform puzzler *Clover: A Curious Tale*. It also created Volatile Games to produce games for an adult audience, such as *Dead To Rights: Retribution* and *Reservoir Dogs*.



» [PC] *Clover: A Curious Tale* was one of a number of indie games picked up by Blitz as it sought to invest in upcoming talent.



» [Xbox 360] The need to attract licences, such as *The Biggest Loser*, was important in an era when fresh IPs became expensive to launch.

were different, but when timescales are tight there isn't time to iterate. Sadly the development was fraught with financial troubles and when Namco's management changed they cancelled the game mid-development. It was rescued, but only by us subsidising the cost of development and losing money on the whole deal."

Still growing fast, Blitz had outgrown Bedford Court and moved to Regent Square House, a few hundred metres away. "With so many employees, and multiple teams we had the capability of developing games in many genres," Philip explains. "So we established a new team, gave it the name Volatile Games, and staffed it with people that had all the passion and skills to take on the development of mature titles like *Reservoir Dogs* and *Dead To Rights: Retribution*. The strategy worked, so we repeated it as we diversified our business."

Indeed, Blitz Games began to split into various divisions. It set-up TruSim for serious games and Blitz Arcade for digital titles. There was a growing confidence at Blitz. The gradual change in the industry towards digital distribution at the end of the Noughties, favoured smaller teams and almost a return to the bedroom coding era. The company capitalised on it with *Invincible Tiger: The Legend Of Han Tao*, an innovative side-on game that could be played in 3D. "We had all grown up with games like *IK+, Bruce Lee* and so on and we thought it would make a great game," says Philip. "Andrew had been going to various technology conferences and there was so much talk about 3D movies in 2007, after the success of *Polar Express*, in the cinemas. He attended the CES and Samsung confidentially told him TVs would be going 3D too. He had follow-up meetings with their chief engineers and they really saw a big opportunity for 3D TV's with games. They shipped a prototype 3D TV to Blitz and our team got an amazing 3D demo working on it."

But times were changing. Third-party developers were running into trouble and the number of games in production declined. Publishers began cutting games and internal teams and they were becoming more reluctant than ever to take a risks. One of Blitz's major clients, THQ, went out of business and, by September 2013, despite 24 games since 2010, the game was up. Blitz went into liquidation.

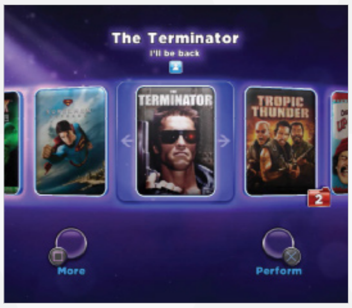
"Like the graceful swan, we always looked calm, whilst paddling like hell underneath," says Philip. "Most of the time, not even our employees knew the financial struggles we'd learnt to juggle over the years."

Yet it was some journey, from 8-bit computer games to the PlayStation 3 and Xbox 360. "We are, and have always been passionate about game development, but we found we were even more passionate about supporting and nurturing developers," Philip continues. "Our job turned into creating a great environment for other very talented people to make great games and we are very proud of what Blitz achieved – as a team!" *



TECHNICAL INNOVATIONS

■ The *BlitzTech* engine was well used by others in the industry, supporting high-quality graphics, real-time lighting, physics, AI and audio among other key features. *BlitzTech*'s digital stereoscopic 3D technology also paved the way for the groundbreaking *Invincible Tiger: The Legend of Han Tao*. But there was more: the *Burger King* games were sold on the first ever dual-booting Xbox/Xbox 360 discs.



KEEPING UP

■ Although Blitz had 8-bit origins, it moved through the generations with ease. It has one of the first Xbox games with *Fuzion Frenzy* and a launch Wii title with *SpongeBob*, while *The Biggest Loser Ultimate Workout* was a launch title for Kinect. Blitz made lots of motion-controlled games including *Yoostar* and augmented reality titles including *Fantastic Pets*. It also made games for mobile and browsers.

WHERE ARE THEY NOW?



PHILIP AND ANDREW OLIVER

■ When Blitz Games Studios closed after 23 years, 50 of its staff moved to a new company set up by Philip and Andrew Oliver called Radiant Worlds. Backed by the South Korean CEO of Smilegate, HyukBin Kwon, it announced an extremely creative game called *SkySaga: Infinite Worlds* in 2014. *SkySaga* is similar in ways to *Minecraft* in that players dig for minerals, hunt animals for food and build shelters, however the free-to-play sandbox adventure also generates unique quests. Today, Philip is the Chief Executive Officer responsible for the creative side of Radiant Worlds and Andrew is the Chief Technical Officer with responsibility for the technological side of things.



RICHARD SMITHIES

■ The former Chief Operating Officer of Blitz Games Studios is now the COO of Radiant Worlds. It is his job to look after the business side of the company and that leaves his cofounders the time to focus on the creation and development of *SkySaga* which is still in alpha and available to play now on Microsoft Windows.

DESTRUCTION DERBY 2

Although created at top speed, Destruction Derby became a hit PlayStation title. Martin Edmondson tells Rory Milne how he built a sequel around the ideas that didn't make it into the original fender-bender

The task of following-up a successful game can often present a developer with a dilemma: deliver more of the same and risk producing something derivative? Or reinvent the wheel and potentially alienate fans of the original? In Nineties Newcastle, however, Reflections producer Martin Edmondson relished the thought of creating a sequel to *Destruction Derby* as it gave him an opportunity to build a game around a wealth of ideas that hadn't made it into his hit PlayStation launch title.

"*Destruction Derby* was built on brand-new hardware very, *very* quickly – around seven months – so it had no shortage of fast design decisions and rough edges!" Martin explains. "It did sell very well, happily. It was also a new idea that hadn't been done before, with appeal to anyone who liked smashing cars up – and who doesn't like that! A sequel was inevitable, and since we had built *Destruction Derby* so quickly we were basically bursting with ideas that we didn't have time to implement in the first game."



» [PlayStation] A fight for fourth on *Destruction Derby 2*'s Pine Hills Raceway sends glass flying everywhere.



IN THE KNOW

» **PUBLISHER:** PSYGNOSIS

» **DEVELOPER:** REFLECTIONS

» **RELEASED:** 1996

» **PLATFORM:** PC, PLAYSTATION

» **GENRE:** SHUNT-'EM-UP

DEVELOPER HIGHLIGHTS

SHADOW OF THE BEAST
SYSTEM: AMIGA, VARIOUS
YEAR: 1989

DESTRUCTION DERBY
SYSTEM: PLAYSTATION, VARIOUS
YEAR: 1995

DRIVER
SYSTEM: PLAYSTATION, VARIOUS
YEAR: 1999

And so the producer and his team took a good look under the bonnet of their original game to see which areas of their sequel needed tuning up and could be improved on. During this time, Martin made the decision to move the destruction stateside. "Nothing ever left the ground or rolled or jumped, nothing ever fell off the cars. Its crossover track was great, but how about route choices and uneven surfaces? It had a British/European banger racing feel to it, and for the sequel I wanted to go for more of an American look and boost the 'spectacle' of it all. The Americanisation extended to other areas of the game's design and visuals; the cars more closely resembled US NASCAR-style cars, replacing the Ford Cortina/Granada style design in the first game. The tracks in *Destruction Derby* were very short – it was a deliberate design choice to maintain a high density of cars for maximum carnage – but with *Destruction Derby 2* we decided to change the approach and build considerably longer tracks. So we built a completely new engine using infinitely variable curves and lengths."

As well as gauging the mileage of *Destruction Derby 2*'s tracks, Martin's team also poured effort into ensuring variety and realism for the courses. "We wanted to give varied visuals to the tracks – a forest, the Grand Canyon, a neon city – and then we paired those with specific challenges such as crossovers, huge jumps and tunnels. We travelled to various



> "Some set-pieces were very obvious and deliberate choices from the beginning"
> Martin Edmondson

locations to photograph the necessary textures, which were printed and then scanned. We built the tracks in Softimage using Silicon Graphics' Max IMPACT workstations. The tracks were output and converted into PlayStation-friendly mesh data using our own tool. We built another tool to texture the meshes using the PlayStation gamepad. They would be exported and I would test them together with the artists – it was all pretty laborious!"

Although intensive, group testing delivered side-benefits when it came to detailing the game's courses, Martin credits the arcades for influencing one particular track feature. "Some set-pieces were very obvious and deliberate choices from the beginning, but others came about as a result of experimenting with the new engine and track designs – like angled jumps on the edges of the tracks; we just put a kink in the edge of a track to see what the physics made of it! The Wild Bills Auto Sales ad with his shaking head was an attempt to create some life in the scenery. We'd been playing *Daytona* and were inspired by the revolving windmills. We noted how it really brought the environments to life."

Equally memorable set-pieces followed, such as insane jumps that would typify Martin's approach to realism while developing his game. "The size of the jumps was to add drama, but, much like *The Dukes Of Hazard* jumps, they would never have been remotely possible in real life. It's a dilemma in developing racing games whether to go for realism or drama. We definitely went with drama. The 0-60mph time was several times quicker than would be actually possible in all but a top-fuel dragster!"



» [PlayStation] Driver 01 is flipped over in a narrow ravine on *Destruction Derby 2*'s Chalk Canyon course.

One concession Martin made to reality, however, was to give *Destruction Derby 2* pit stops, although he limited racers to just one stop per-race rather than multiple stops paid for with points. "Certainly we didn't want the player to be constantly in and out of the pits as it took away from the action. A points and penalty system would have added a lot of additional work and balancing so I probably approached the new pits feature from the direction of: 'You have one stop and one stop only so you'd better choose when and what you fix wisely!'"

A related aspect of the game's design saw Martin and his team dream up suitably extreme reasons for cars to need repairs. "It was about being visually ▶

DANGEROUS DRIVING

Driving games with an appetite for destruction

ROAD BLASTERS



■ Although aesthetically similar to *Out Run*, *Road Blasters* is as much a shooter as a racer. So although there are numerous vehicles to dodge and speed past, some leave behind fuel if you run them off the road. The game's other notable features include weapon upgrades and armed street furniture!

CHASE HQ



■ Taito turned coin-op racing on its head with *Chase HQ*, as this cops and robbers title requires ramming vehicles off the road, rather than avoiding them. The objective is to target criminals, but this is more a guideline than a rule, and indiscriminate road rage only enhances the adrenaline rush the game provides.

ROAD RASH



■ Besides nailing the sensation of high-speed racing, *Road Rash* also offers the option of battering other competitors senseless, which is deeply satisfying after one of them taunts you before you race. The game additionally provides replay value by allowing winnings to be spent on repairs and better bikes.

TWISTED METAL

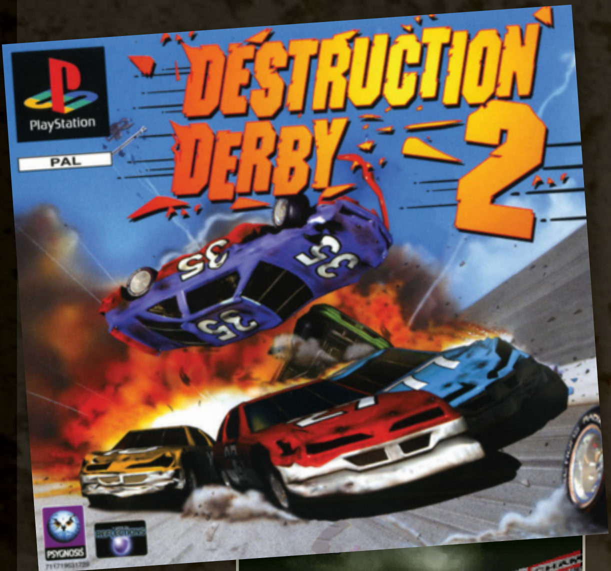


■ Part driving game, part shooter, *Twisted Metal* demands skill at the wheel and a steady trigger finger in order to make any sort of progress. This early PlayStation release boasts an impressive range of weaponry and highly-eclectic combatants, which are encountered in increasing numbers as you progress.

CARMAGEDDON



■ The controversy *Carmageddon* caused on release by allowing players to joyfully squash pedestrians has thankfully long since subsided, which allows it to be appreciated for its immersive gameplay and black humour. Cartoon violence aside, *Carmageddon* cleverly combines a destruction derby with racing.





» [PlayStation] A driver in *Destruction Derby 2*'s Pit Bowl drives backwards to avoid destroying their engine.



» [PlayStation] Competitors teeter on the edge of a sheer drop in *Destruction Derby 2*'s Death Bowl arena.

varied and satisfying. We wanted additional effects so the final dying car looked less predictable every time. Sometimes it would be missing wheels – or the hood and the bonnet. It might be on fire or on its roof. So it was just a question of [bringing] variety and subtlety to the damage."

Martin's pursuit of variety followed through to the sequel's various modes, including its Wrecking Racing option, for which he devised alternative means of smashing into first place. "Wrecking Racing was designed to allow a broad range of viable strategies: try and stay up with the pack but constantly be on the look out for spinning and smashing opportunities before making a bolt for the lead toward the end, focus on destroying the lead cars for maximum points before taking the lead from them, or just try and smash everything in sight without any regard for position. This proved difficult for us to balance, but in the end it was possible to win with all of those strategies."

In contrast, Martin designed *Destruction Derby 2*'s 'Stock Car Racing' mode to offer pure racing as well as maximum carnage after a day's research greatly inspired the producer. "I was down at Arena Essex watching the Banger World Finals, and in amongst all the deliberate crazy carnage there were four cars that were [obviously] just simply racing, and racing hard with no contact. It was showing some really competitive racing when they could clearly have smashed each other off the track and won. Since we had built an engine that was perfectly capable of running a normal racing game, it went in! Sometimes you just want to race."



» [PlayStation] Glorious sunshine belies the brutal nature of *Destruction Derby 2*'s Red Pike Arena bowl.

> **"We wanted effects so the dying car looked less predictable every time"**
> Martin Edmondson

And by way of an alternative, the third mode in Martin's sequel didn't even include racing tracks, but it did showcase destruction derby bowls fuelled by airborne carnage. "We added more varied bowls to take advantage of the new ground-based physics system that we'd built. It was fun to explore what jumps and so on could bring to them. It definitely added to the carnage in the initial impact when everyone raced to the centre! And strategies changed where you could push cars off the side, but we decided there wasn't enough variation to the gameplay and tactics in the bowls to justify an entire championship based around them."

Another concession to the rule that 'less is more' came when Martin decided against implementing speed boosts and other collectible enhancements in *Destruction Derby 2*. "I basically drew the line at the exaggerated performance and jumps, not wanting to drift too far off into arcade game fantasy land with boosts and pickups. It would have changed the nature and the feel of the game. I've always been a fan of as much realism as possible when it comes to the car physics with just a bit of license to make sure the handling and collisions don't feel dull."

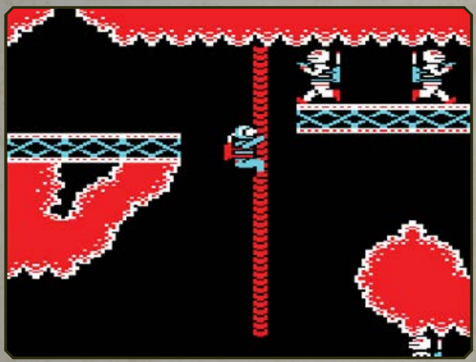
EXCELLENT EDMONDSON

Selected classics from Martin's back catalogue



RAVENSKULL

■ A stylish dungeon-crawler, *Ravenskull* sets logistical challenges and agility tests that require experimentation and lateral thinking to overcome. The key to Martin's scrolling labyrinth is to deduce which key, pickaxe or spell is needed to pass each obstacle.



CODENAME: DROID

■ The sequel to *Stryker's Run*, Martin's follow-up adds platforming to the original's stealthy run-and-gun formula. *Codename: Droid* requires more planning and pixel-perfect positioning than its predecessor, but its deeper gameplay is just as compulsive.



SHADOW OF THE BEAST

■ Best remembered for its stunning visuals and soundtrack, *Shadow Of The Beast*'s aesthetics still impress, even if its gameplay seems unforgiving. Ultimately, though, the engaging platforming and boss fights in Martin's Amiga classic are worth the effort.



» [PlayStation] Breaking glass showers competitors entering an underpass on *Destruction Derby 2*'s S.C.A. Motorplex.



» [PlayStation] Seconds before a three-car pile-up under the bright lights of *Destruction Derby 2*'s Liberty City.

In order to stay true to US stock car racing, Martin decided that *Destruction Derby*'s follow-up would rock rather than rave, which proved a test of his art team's mettle. "We changed the music mainly as part of the 'Americanising' of the feel of the game from British banger racing to American stock car racing. I visited many, many stock car races and destruction derbies right across the US both before and during development, and one thing that stuck in my head was the incessant metal blasted out over the speakers at the tracks! As for the specific choices, Jug and Tuscan were both thrash metal bands that two of our artists were involved in so that's how they got on there."

Given this choice of soundtrack, soft-spoken commentary was clearly not an option, and so Martin booked a flight to the States and the services of vocal sports broadcaster Paul Page. "We went through the script in a recording studio in Indianapolis, and then I asked him just to give a running commentary to a race as he watched it, completely in his own style with no script. He became quite animated and excitable which is of course what we were looking for. The number of phrases used was dictated by the amount of memory we could afford. I definitely would have had more if we could, and some phrases appeared too regularly – 'watch the paintwork' used to irritate the hell out of me."

Minor irritations aside, the sequel to *Destruction Derby* was subsequently completed to its producer's satisfaction, and as Martin remembers, glowing reviews soon followed. "I think it was perceived very positively as a worthy successor, and certainly it sold very well. I was just glad it was appreciated that we had put a huge amount of effort into it and had improved and reworked so many areas when it would have been easy to just knock out a few new features, tracks and cars. So we were genuinely proud."

In looking back at his Reflections classic now, Martin offers a measured critique of his carnage-based racer before making it clear that *Destruction Derby 2* still holds a special place in his heart. "I would make the tracks slightly smaller to try and get the car density back up a bit closer to *Destruction Derby.* The other thing is that although the damage was much more varied we had to sacrifice some details that actually looked much better in the first game. I still remember during development that it was built out of passion, so I genuinely enjoyed playing it rather than just testing it for bugs. I do think it looks very crude, but I still view it warmly, and so many people enjoyed it." ★

Many thanks to Martin Edmondson for re-entering *Destruction Derby 2*.



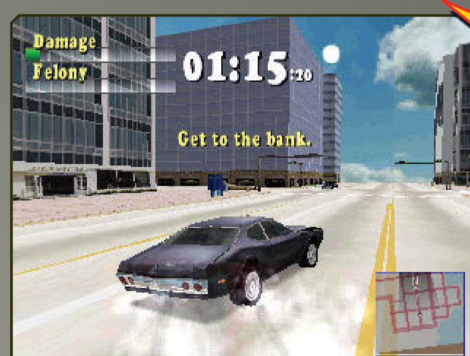
AWESOME

■ Given its title, *Awesome* has a lot to live up to, and as a visual spectacle Martin's Amiga shooter/trading game is appropriately named. In terms of gameplay, its highlights are enjoyable – rather than awesome – *Bosconian* and *Space Harrier* tributes.



DESTRUCTION DERBY

■ Reflections' first PlayStation release wowed early adopters of the console, and although its sequel soundly surpassed it, the original still nails four-wheel devastation. The game's chaotic crossover course and the mayhem of the Bowl are particular high points.



DRIVER

■ An unapologetic love letter to cinematic car chases, *Driver* delivers an immersive mission-based narrative that enables players to tear up the streets of Seventies America. Martin's classic represents a heady blend of pulp fiction and unrestrained driving.

Future Classic

Modern games you'll still be playing in years to come



INFO

- **» Featured System:** PS4
- **» Year:** 2016
- **» Developer:** Thekla, Inc.
- **» Key People:** Jonathan Blow (creator)

GO DEEPER

- **» Architects and landscapers were brought on board to make the world and its architecture feel more natural.**
- **» *The Witness* contains more than 650 brain-bending puzzles to solve.**





»[PS4] The island is a diverse place where you can find ruined villages, forests, deserts and castles.

57. THE WITNESS

Join indie gaming expert Paul Walker-Emig as he sets sail for the shores of one of the most mysterious, beautiful, and brain-taxing puzzle-filled islands in videogame history

THE BACKGROUND

There aren't all that many 'names' in videogames – it tends to be studios or publishers that are the focus of attention – but in 2008 Jonathan Blow became one, courtesy of his first game, *Braid*. The time-bending puzzle platformer joined the likes of *Super Meat Boy* and *Fez* as part of a vanguard of titles that pushed indie gaming, and Jonathan himself, to prominence. Its huge critical and commercial success meant his next game was sure to garner plenty of interest. As to what his next game would be, Jonathan set out to discover that by working on a series of prototypes, eventually deciding to go ahead with developing the one that showed the most promise. This was the game that would become *The Witness*.

The game's development history demonstrates Jonathan's admirable commitment to his principles. He met with publishers to try and get funding, but after realising that signing a deal with them would mean agreeing to certain restrictions, decided to put the money he had made from *Braid* on the line instead. Only by putting together a team on his own dime could he ensure that *The Witness* would be the game he envisioned.

That perfectionist streak would cause the game to suffer multiple delays – it was supposed to be a launch window title for the PS4 in 2013 – but when we finally got to play it after seven years of development, it proved to be worth the wait.

THE GAME

To describe the appeal of *The Witness* is not easy, because what makes the game interesting isn't so much what you see on the surface, it is what is happening in your mind when you play it. Don't get us wrong, the mysterious pastel-coloured island on which the game is set is a beautiful place to explore, but at a fundamental level, the only thing you'll find to do on the island is to solve a series of ever more complex maze puzzles. You could justifiably say that sounds boring, so why isn't it?



»[PS4] You start with simple line mazes, but things soon become a lot more complicated.



»[PS4] *The Witness* bursts with colour, stylised enough that it shouldn't age as badly as more realistic games tend to do.



»[PS4] Sometimes a change of perspective is required to understand how to solve a puzzle.

> **"It is that ecstatic moment of epiphany that The Witness is constantly chasing"**

The answer to that question lies in the way that the puzzles are constructed. Your goal is always to draw a line from a starting point to an exit. However, in each area of the game, you are introduced to at least one new rule that changes how you must find your way to the puzzle's end-point. Crucially, there is no tutorial explaining how this new rule works. Instead, you are confronted with a puzzle panel with symbols that represent the new rule in amongst the lines of the maze – these might be some black and white squares, or some yellow *Tetris* blocks, for example. The first panel will distil the essence of the rule down to its most basic form, the next will elaborate on it. You might stumble on the correct solution while experimenting with the first panel without quite understanding why it was right, but on the second, or the third, the meaning behind the symbols will suddenly become clear, and in that split-second, you will experience the eureka moment that makes *The Witness* so great.

It is that ecstatic moment of epiphany that *The Witness* is constantly chasing, and that it frequently catches to create moments of joy that accompany each new revelation. Those moments where something new clicks, whether it's the solution to a tough puzzle, the delight at spotting a surprising trick of perspective, finding a secret, or realising that you have just understood a new piece of the visual language that the game is subtly teaching you that can take back to an area you were previously stuck on, are intensely satisfying.

It would be remiss of us to tell you much more. We *could* draw your attention to a particularly impressive perspective trick, but it wouldn't have the same effect as seeing it manifest yourself. We *could* reveal the secrets behind some of *The Witness*' brilliantly-designed puzzles – you'd probably still have some fun solving them – but it wouldn't be the same as experiencing that moment of 'getting it' for yourself. It's that moment that makes *The Witness* special and we wouldn't dream of taking that away from anyone who hasn't played it.

WHY IT'S A FUTURE CLASSIC

If you need a reason to believe that *The Witness* can stick around, look no further than the history of the maze. From the Minotaur-inhabited labyrinths of Greek mythology, to the hedge-mazes of English gardens, to the pages of countless puzzle books across the globe, we've been writing about, playing in, and playing with mazes for hundreds of years. They have an enduring appeal that will serve *The Witness* well.

Indeed, it is the simplicity of the maze mechanic that will see *The Witness* reach classic status in years to come. Based on such simple foundations, there is nowhere for the game to hide, no gimmicks, no leaning on fancy graphics that will look hideously outdated in ten years' time. It stands and falls on the quality of its puzzle design, and in that aspect, it is near flawless.

This is a game that will be remembered not just for how intelligently designed it is, but for how it treats you, the player, as intelligent too. It gives you the freedom to discover without any instruction, making you feel like you have overcome each mental hurdle on your own. There is something liberating, empowering, and endlessly appealing in that design philosophy and it will ensure *The Witness*' classic status. *



»[PS4] You will find some strange stone statues across the island. It's up to you to try and figure out what they mean.

Things of note

RUN FREE

You're free to go where you like, so if you come across a puzzle you don't understand, just move on until you've got the knowledge you need to come back and solve it.



PRESS PLAY

There's no story to follow per se, but these audio logs that you can find littered around the world give you some clues about the history of the island.



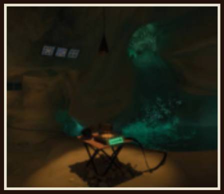
LEAVING YOU BEAMING

Completing an area will turn on a beam of light that points to a mountain on the island. Why? You'll have to find that one out for yourself.



THE BIGGEST CHALLENGE

We're not going to tell you how to get there, but *The Witness* hides a secret room that only the most dedicated puzzlers will be able to solve.



NEEDS MUST

The beautiful art style had to be settled on quickly when the developer was only given a couple of weeks' notice that they would be appearing on stage at the PS4 reveal event!



DIA

While not one of the most prolific franchises in gaming history, Diablo still manages to carry a heritage with it that, to this day, controls an entire genre. Adam Barnes explores the history of the series that gave birth to a new type of RPG

How many franchises can say they're the inspiration for practically every other game in that genre? How many times has a single title release been so significant for the gaming industry that – more than a decade later – it is still the term used as a catch-all description for every other game released in the same style? It's rare that we see such complete dominance from any title these days and, in truth, as the industry continues to etch itself further and further into its niche it's not likely we'll see another of the sort again. We've all heard of the term '*Diablo*-clone', and that it is still used to this day to describe a specific sort of action RPG. *Diablo* is one of these rarest of games, then: it is the birth of, the heritage of and the master of a whole genre and is the name people reference when they want to take a stab at the gameplay that Blizzard popularised in 1996.



» [PC] The original game's isometric viewpoint is something that has defined the series and has persisted through to this day.

The concept began within the young mind of David Brevik who, after moving to San Francisco from Georgia with his family, found himself living at the foot of Mount Diablo. Yet while that name would be part of the game's inspiration, it would be the RPGs of David's high school youth that truly planted the seed for the would-be franchise. Classic roguelike RPGs in particular would form the basis of *Diablo*'s gameplay, with examples such as *Rogue*, *Angband*, *Moria* and *Nethack* being the most integral. It wouldn't be until years later, however, that David would see his dream game come to fruition: he majored in Computer Science, formed his development studio, Condor, and had a chance meeting with the team at Silicon & Synapse.

"We had a contract to do a game called *Justice League Task Force*," says David, "which was a fighting game kind of like *Street Fighter* but with the Justice League." As part of this contract work, David and some of his team working on *Justice League* would attend CES where videogames had a small representation. As it would turn out Silicon & Synapse, too, was working on a version of *Justice League* for the SNES while Condor had been put to task on the Mega Drive equivalent. "The publisher had hired two different studios to do the two different versions of this game," explains David, a not-uncommon practise at the time, "and we had never talked to each other, we didn't know that there was another version. It was very strange, and so we were kind of shocked."

B L O





» [PC] Levelling up meant that you could chose to increase your stats by allocating a limited amount of points.

As part of this revelation, David got speaking with the developer right before it would become Blizzard. "Silicon & Synapse had said, 'Oh, we've got some news, we've just sold our company and we're making our first PC game.'" David used this as an opportunity, and discussed his idea for a role-playing game that he had long hoped to create in the hopes of moving his Condor company away from creating ports and cartridge games and making the PC games he dreamed of. "And they said, 'Well, after we've finished our PC game, why don't we come by and you can pitch this game to us?.' So they finished, and changed their name to Blizzard, finished *Warcraft* and came out to hear our pitch."

That pitch would ultimately lead to Blizzard signing on Condor to create *Diablo*, with the *Warcraft* developer acting as the financier and publisher of the game. The pitch would be a totally different experience to how the game ended up being, however. David explains that it was originally single-player only, turn-based and with claymation visuals, designed around modernising those classic roguelike games with barebones ASCII-based text visualisation into something more modern, something with a graphical interface and that was controlled ▶

FEELING CLASSY

The different classes of Diablo



WARRIOR
DIABLO



■ Though classes weren't as rigid in the original game, they still formed a basis of the typical archetypes to play as. This one was naturally the tough, sword-wielding type.

SORCERER
DIABLO



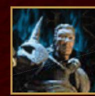
■ As you might expect, this class was the spellcaster. It was the toughest class to play since it lacks defensive capabilities with little way to defend itself when swarmed.

AMAZON
DIABLO II

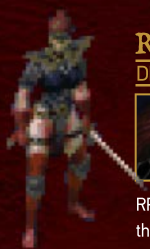


■ A unique twist on the Rogue class of the original, this tough warrior hurls spears at their enemies. It was a popular class because it offered something different at the time.

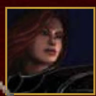
NECROMANCER
DIABLO II, DIABLO III



■ As you might expect, this class utilised the undead as it could summon slain enemies to help it deal damage. The class was recently revived for *Diablo III*, as well.



ROGUE
DIABLO



■ If the Warrior was the brute force of *Diablo* then the Rogue was the more agile sort. Unlike typical RPGs where Rogues adopt stealth, here they mostly relied on bow and arrows.

MONK
DIABLO: HELLFIRE, DIABLO III



■ The Monk utilises only their fists to deal damage, making it the closest range dueller in the franchise. That doesn't stop the class from dealing heavy damage, though.

PALADIN
DIABLO II



■ This holy warrior was more of a supportive role than any other in *Diablo II*, though it was obviously able to fend for itself and take a punch if it ever came to it.

BARBARIAN
DIABLO II, DIABLO III



■ The Barbarian class is much like the warrior class in any other RPG, except it's more about aggressive rage-controlled damage than acting as a tank for damage absorption.



> "We finally had a vote, because it was this hot topic that Blizzard kept pestering us on"
> David Brevik

▶ with a mouse. "Our turn based was a little different than the turn based in *Rogue* or *Moria* or whatever, in those games the thing that you would want to get was the Ring Of Speed since it would allow you to take multiple turns for every monsters turn. We thought that whole system was kind of broken, so we decided we were going to instead break down turns so that different things cost different amount of time, so a turn wasn't just a turn."

But, as history tells us, *Diablo* evidently never utilised a turn-based combat system. Blizzard ended up suggesting to Condor that the development team should try switching the action to real-time instead, a matter that David wasn't especially keen on. "The thing I loved about roguelikes was that every turn mattered, right? And so as you wander and you're fighting something, you would get into these situations where your character is about to die, and you've been working on this character for about two weeks and they had permadeath so your character would be deleted if you died." Development continued onwards, but Blizzard continued to make the request to just at least try switching the game to real time. "We finally had a vote, because it was this hot topic that Blizzard kept pestering us on. I was sure that we would lose so much by doing it." Despite David's concerns, he was outnumbered; the company vote went overwhelmingly to try out the game in real time. Unable to resist the wishes of his team, David set to work recoding the game into its new gameplay setup, a task that was made considerably more smooth thanks to the novel way the original design handled turn-based combat.



» [PC] The original game only had a handful of equipment slots, which would notably change in its sequels.

"We had kind of designed the turn-based gameplay to be almost a pseudo-real-time thing anyway, so a lot of the design remained the same, but it allowed us to make this experience much more – for lack of a better description – 'arcadey' than it had been. Missiles were flying across the screen and there were puddles of goop and there were things that you could do that you couldn't do before that didn't have the same effect. I think that made a big impact in how action-orientated it was, compared to the way it was before. So we kept coming up with more and more fantastic spells." David adds that he never looked back, and he knew immediately that it was the right decision. "I don't mind admitting when I'm wrong," he laughs. "I don't always have the best ideas. And that's exactly why we tried it in the first place. I believe that it's better to try things. I have a belief in what I'm doing, but I'm not 100 per cent right all the time so it's best to try things even if

SORCERESS
DIABLO II



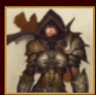
■ Not much to say about this class since it's rather self-explanatory. It's essentially the female equivalent of the male Sorcerer of the previous game.

DRUID
DIABLO II: LORD OF DESTRUCTION



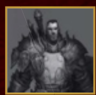
■ A sort of precursor to the Witch Doctor class in *Diablo III*, the Druid utilised the powers of nature to summon raging storms and beasts to assist in battle.

DEMON HUNTER
DIABLO III



■ A much quicker, more nimbler class, the Demon Hunter is more about rolling to avoid damage, disabling his enemies and crushing them with their crossbow.

CRUSADER
DIABLO III: REAPER OF SOULS



■ Utilising the patriarchal Paladin style, the Crusader is the tankiest of the roster in *Diablo III*, utilising the sword and shield combo for both offensive and defensive tactics.

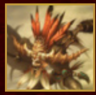


ASSASSIN
DIABLO II: LORD OF DESTRUCTION



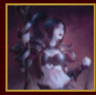
■ This was one of two classes added into the game with the expansion pack and utilised martial arts in order to defeat the scores of demons and monsters.

WITCH DOCTOR
DIABLO III



■ This interesting-looking character works much like the Necromancer of *Diablo II*, summoning a bevy of minions – this time eerie monsters – to battle against monsters.

WIZARD
DIABLO III



■ Perhaps the only 'traditional' class that appears in *Diablo III*, the Wizard destroys their enemies with an array of damaging area of effect spells.



» [PC] Sometimes your inventory will be too full, and you'll be forced to leave some of your favourite gear behind in a dungeon, if you find something better.

you don't necessarily believe that it's the right decision. You don't realise the ramifications of what something is really like until you try it."

David set to work coding on a Friday and by Monday the game was in its new format. From there, the game grew exponentially, the addition of real time adding to the potential of David's game. Pleased with the progress and the results of the move to real time, Blizzard bought out Condor about halfway through the development of *Diablo* and by 1996 the game hit shelves and became an overnight success. The fresh, action-driven approach to RPG gameplay – which up until that point had been entirely turn based – its unusual dark fantasy setting, randomised dungeons and the addition of multiplayer brought a multitude of ways that it shook up a traditional, set-in-stone genre. Suddenly, RPGs didn't need to be slow, plodding affairs. It shot to popularity, but a sequel wasn't automatically on the cards…

"It took us about four months or so to really accept that we were going to do a sequel," David says. Blizzard North – as it was coined after Blizzard bought out Condor – began work on prototyping new ideas. "I was super burned out after finishing the first one, and my second child was born three days after *Diablo* was released, so I was really preoccupied. I had worked really hard for the last eight months or so, every day, as we finished up *Diablo*. So I really didn't want to have anything to do with it." *Diablo* continued to shoot up the charts, with little inspiration for David to want to work on a sequel. "We came back and we started working on some other ideas, and I was like, 'I don't think I want to make a second one,' and we were going to start working on some other concepts and start thinking about what else we were going to do." But all it took was a resting period, it seems. The initial fatigue that had set in after the crunch subsided around four or five months after the game's completion and before long David's itch to return to the bowels of hell was revived. "And then we kept coming back to *Diablo*," he says.



» [PC] Action could get quite hectic with blood and body parts flying around like they've been left in a blender with the lid off…

"Well, I got this great idea for *Diablo* that we could do 'this' or 'what if we did this with *Diablo*' and then those started about two months after we finished the original. Then by four months we were like, '…Yeah, we're going to do *Diablo II* at this point.' Especially as we had a lot of motivation due to the rampant cheating, we wanted to solve that and try and get secure online play."

As popular as the multiplayer was, it was still early days for multiplayer gaming and the kinks had yet to be ironed out. Players figured out how to hack the game to gain powerful items or make them practically invincible. The game became rife with cheating due to its peer-to-peer connection, and that wasn't something ▶

TREASURE THIS

Some of the most coveted gear in the series



HOMING PADS



LEGENDARY PAULDRONS

■ Have this pad of armour on your shoulders and you'll have no problem finding home, protecting you while you summon a portal.

GOTTERDAMERUNG



GREAT HELM

■ One of the most dark gothic names the game has provided, but one's most interesting is how it limits your vision but makes you more defended. Plus it looks amazing.

THE CAT'S EYE



AMULET

■ Pair this amulet with a quick pair of boots and you'll have the faster character in the game, and have little chance of being hit by an arrow.

HELLMOUTH



WAR GAUNTLETS

■ Ignoring the awesome name, these gloves not only add fire damage to your attacks but have a chance of calling in a meteorstorm *and* a firestorm.

DEMONSPIKE COAT



FULL PLATE MAIL

■ Not only is this indestructible, but it makes its wearer resist fire by 50 per cent and even adds to strength by 10.

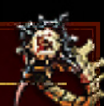
PUZZLE RING



LEGENDARY RING

■ Summoning Treasure Goblins is fun enough, but having one that chases you around and rewards you is even better.

HELLFIRE RING



LEGENDARY RING

■ A magical ring that literally turns the ground to lava while you're fighting? Yes please.

AETHER WALKER



LEGENDARY WAND

■ With this staff, teleporting no longer has a cooldown, making it a very appealing weapon indeed.

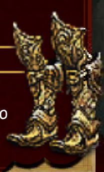
AKARAT'S AWAKENING



LEGENDARY CRUSADER SHIELD

■ Not only does this ornate shield look badass, but there's a high chance that it reduces cooldowns too.

LUT SOCKS



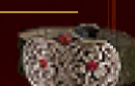
LEGENDARY BOOTS

■ *Diablo III*'s Barbarian class' best ability is Leap just for how fun it is to use. This lets you use it more.

THUNDERGOD'S VIGOR

WAR BELT

■ Come on, it's called *Thundergod's Vigor*… of course you want it. But if you're the Amazon class then this belt is especially powerful.





» [PC] *Diablo II* had varied monsters to hack and slash, from ghouls to yetis, through to Diablo himself.

> "We thought it would be really cool if we weren't just in this Irish-looking countryside place and we instead went into other locations in the world"
> David Brevik

that could be fixed through patching. It needed a overhaul. "There were a few things that we wanted to do and a few things we were motivated by. One was that we really wanted to make it client server instead of peer-to-peer networking so that we could hopefully solve the cheating. We had lessons to learn there, too, in the end, but largely we prevented a great majority of the cheating. Converting the whole thing to client server was a big networking challenge as well as creating a Battle.net that could have a client server architecture instead was a big undertaking too."

As the game was developed, more and more additions began to crop up. The development of the sequel had been far more evolutionary, the knowledge that *Diablo* was a proven concept giving the team a more confident approach in changes to the game, some that changed the game in minor ways and some that were integral to what made the sequel the success it was. "And then there were things like how the walk out to the witch in the original *Diablo* was painfully slow and terrible and so we really wanted to put running in the game," adds David. "We also thought it would be really cool if we weren't just in this Irish-looking countryside place and we instead went into other locations in the world and explored different places and had different environments and it would be cool if it was outdoors and not just indoor and you could fight in other places besides just the dungeon. It's like all of these ideas and stuff really started making its way to the top. These were the big ideas that we started out with, eventually we said we were going to have more of a class system than we did before. Before it was like anybody could do anything and people were a little paralysed by the amount of decision making they could make in *Diablo* and we thought it would be better if we would add classes that guide people a bit better. I came up with the idea of skills trees, and these things didn't all happen at the beginning. They were all in the period of the development but I think the initial stuff was running, indoor and outdoor levels and client server. Those were the biggest three I'd say."



» [PC] Your character had space to lug around whatever items you found in a dungeon, which you could stash once you returned to a settlement.

But the difference was that this was a team working on a sequel to a known title, to a game that had already proven itself. The atmosphere was different, there was confidence about the team, a determination that couldn't have been tracked. "I mean spirits were high," admits David. "The stress of money was gone. It did feel differently, and it felt better. It felt great. It

EXPANDED REALMS

How the series broke out and expanded to new mediums

It may seem strange to say, but *Diablo* has had quite the history with additional media to help bring its universe to life. Something about Blizzard's war between angels and demons has made for ripe opportunities for novels and comics, the latter even produced by DC Comics and Dark Horse Comics. Much of it has focused on specific characters of the games, their backstories and lore fleshed out via these alternative sources. They began as early as 2000, and since then there's been 13 novels and three different comic series. It's a testament to the lore of a game that this is even possible, but also to the devotion of the fanbase that they keep buying these extras.



was amazing that this dream game that I wanted to make for so long, other people wanted to play and they thought it was good and that was very gratifying. But that didn't stop the desire for me to want to stop, I wanted to keep making more games and make it even better, right? Despite the fact that we had all this success, I'm my own worst critic. Nothing was good enough. I didn't even want to play *Diablo* or *Diablo II* after they came out, I see all the things that were problems and I want to fix them endlessly. I knew that I couldn't fix the cheating problem for *Diablo* and the only thing I could do was to make a second where that wasn't really possible."

Diablo II was released in mid-2000, and it is widely considered one of the best RPGs of its time. It tackled all the problems of the original and resolved them to make an exceptional example of this new action RPG genre. It was by far and away Blizzard's most popular title at the time, and it sold by the millions. After scaling the charts with its *Warcraft* series, Blizzard had found an IP that it could leverage, and in so many ways it was much more a 'Blizzard' title than its predecessor.

"There was a lot of rumours in *Diablo* that there was a cow level and that clicking on the cows would open up a portal to a special place," says David of his most infamous addition to the series, "because you could click on the cows and make them moo and things. So we took that idea and actually made it a reality – we made this cow level [for the sequel], kind of as a joke to that rumour. We just thought it would be fun to do and put it in the game. It was never really meant to be that serious of a place or that serious of a thing to do but it ended up obviously being quite a popular place to go and seek treasure eventually."





» [PS4] Mapping your frequently-used abilities to hotkeys is imperative in surviving enemy encounters.

An expansion pack was released only a year later, and that was *Diablo* sorted. It was set in stone and with it the template for everything that would come since; every crushed skeleton, every consumed potion, every isometric action RPG owed its design to *Diablo II*. And then nothing. The expansion pack was released – *Lord Of Destruction* – which rounded out the package of *Diablo II*, but ultimately the franchise would fall by the wayside, despite its obvious popularity. After a number of high-profile developers left Blizzard North, before long the prospect of a new *Diablo* game disappeared into the wind. "We actually started working on a *Diablo III*, but then we left Blizzard," says David of what happened by the end of *Diablo*, "and when we left, I think, a lot of the company and a lot of the expertise from making *Diablo* and stuff had left the company. Some of them went and did other things, some of them stayed there, it was a kind of a mix. It was, I would say, half the people that left Blizzard North and went to go and work at other places, maybe a third or so of them stayed there and then they shut down Blizzard North and moved some of them to Southern California at Blizzard's headquarters and I think that only a small percentage of people actually moved down there. So you know, moving basically the entire team over the course of a year or two years really hurt the development for *Diablo* in a lot of ways, and it took a long time to rebuild that expertise and find the right people to carry the project forward. Therefore, it took a bit of time to kind of recover properly from that setback."

BEST DIABLO CLONES

The games that tried to take Diablo's crown



TITAN QUEST

IRON LORE ENTERTAINMENT, 2006

■ Of all the *Diablo*-clones released over the years, *Titan Quest* is perhaps the only one to challenge Blizzard's franchise for its reigning title. With a more adaptive class system, *Titan Quest* became a fond replacement for fans of *Diablo*. Recently its developer released *Grim Dawn* after a successful Kickstarter, and it is perhaps the first must-have *Diablo*-clone for many years.



DUNGEON SIEGE

GAS POWERED STUDIOS, 2002

■ Microsoft sought to capitalise on the popularity of *Diablo* with its own release and managed to create a title that is equally well thought of to this day. A seamless world (so no loading screens) and a class system based on your playstyle, rather than an arbitrary decision at the start of the game, were some of the features that helped it to stand out.



TORCHLIGHT

RUNIC GAMES, 2009

■ This was one of the more recent *Diablo* clones, but rose to prominence due to its simplistic, indie approach to *Diablo*-style gameplay, and the fact that Blizzard hadn't released a title in the franchise for many years. It didn't do much to change the genre or adjust it to its own style, but it proved there was still something therapeutic about hacking and slashing through a game.

> "There were rumours that there was a cow level and that clicking on the cows would open up a portal to a special place"
> David Brevik



» [PS4] *Diablo III* was the first game since the original to also appear on consoles.

Blizzard North's work on the title lasted for about a year before its end, with much the work going towards its new engine. This was to be the first 3D *Diablo*-style RPG. "We had been working on it for maybe eight months or so," explains David. "We were actually starting on two projects and were in the process of splitting the company up into two different teams and working on different projects and we were trying different prototypes on one team and then *Diablo III* was on the other team. They were mainly making tools and technology for a while, because it was going to be 3D so this was a true 3D engine that they had to create and all the tools associated with that, [therefore] it took a little while to get started. They probably worked on it for about a year, I would say, by the time we had left."

It wasn't intended to innovate, we're told, but modernise the *Diablo*-style genre, to "make it a bigger game, make it more massive multiplayer" akin to the likes of *EverQuest* that had been taking the world by storm. But eventually Blizzard did do something about its aging RPG. It was 14 years between the release of *Diablo II* and the third game, a surprising hiatus for a franchise that was a proven success. *Diablo III* launched in 2014 with its expansion pack, *Reaper Of Souls*, launching a year later. Here it brought in new classes, expanded the world with a more concrete, non-randomised setting and required an internet connection to play, even in single-player.

The game launched to a number of issues, but key among them was Error 37, a problem that occurred due to the heavy load that Blizzard's servers were taking as players tried to play the game. On one hand it provided weight to the criticism of Blizzard's decision to enforce an internet connection even when the game was played in single-player, but on another hand it highlighted just how significant the franchise was. Even after 14 years *Diablo II* had remained the epitome of the genre, and no matter how many titles had come along to tackle it none could compete. The game went on to sell 3.5 million copies in its first day, and has once again become a staple series for Blizzard, and with rumours of a fourth game in the works it could well be the time to sharpen our swords for another adventure. *



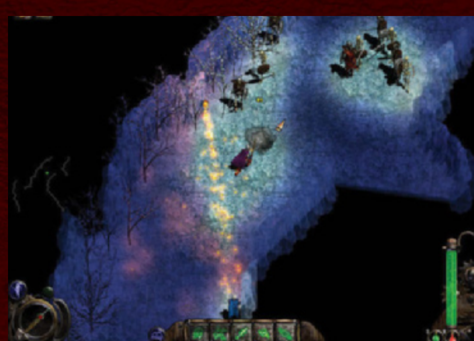
» [PS4] *Diablo III* was presented in a modern gaming sensibility, being rendered in full 3D



SACRED 2

ASCARON, 2008

■ This series isn't exactly a high-quality franchise, per se, but its open world, quest-driven approach, blended with *Diablo*-style gameplay was definitely enough to help it build up quite a following over the years. The series has since fallen by the wayside, but the second game in the series, arguably the best, remains popular with *Diablo* fans.



NOX

WESTWOOD STUDIOS, 2000

■ When it was contemporary, *Nox* was one of the better *Diablo* clones to hit the market. Westwood's attempt at creating its own *Diablo*-like franchise went down well and is often compared to the quality of *Diablo II*, even though it actually predated that game by five months. A sequel was once slated, however Electronic Arts has since chosen to not support it.







© Akinori Sao

In the chair with...

SATORU OKADA

Satoru Okada was Gunpei Yokoi's right-hand man at Nintendo for over 30 years, but is rarely mentioned in the history books. Eager to change this cruel oversight, French Nintendo historian Florent Gorges and Darran Jones look back at his impressive legacy

Satoru Okada joined Nintendo in 1969 when it was on the cusp of creating videogames. He soon found himself working in the now-legendary Nintendo R&D1 division alongside Gunpei Yokoi. Okada headed the department during the Nineties and has been involved in all of Nintendo's handhelds up to the release of 2009's DSi XL. Okada left Nintendo in January 2010, leaving behind a legacy of gaming that's as impressive as it is poorly covered in the press. This interview should give some insight into one of Nintendo's most important, but least discussed, developers.

Satoru Okada was born on 10 January 1947 in Odate, of the Akita Prefecture in the north of Japan. When he was just five years old, his parents decided to head back to Osaka, their home region. So it was in Osaka's capital city of Kansai where Okada grew up. He quickly developed a passion for electronics and proved to be rather gifted and dreamed of becoming an "inventor". "In secondary school, I used to buy electronics magazines for children," he begins. "Inside, you could find some easy tutorials to build radios. So I learned on my own and I bought my own soldering equipment, my components, etc.. At that time, it was quite an expensive hobby. But I was an only child, so I had more pocket money than my friends, who all had many brothers and sisters..."

As Okada entered his teenage years, he began to show signs of nonconformism, eager to do what he could to ensure that he stood apart from his teenage peers. "I was not a troublemaker, but I enjoyed being different," Okada tells us. "For instance, I used to come to high school on my motorbike, even though it was forbidden. I also had long hair and I was asked several times to cut it. But I always refused..."

Okada may have chosen to play by a different set of rules, but he still harboured a deep love for electronics and a passion for the subject, which eventually saw him joining the Osaka Kogyo electronics faculty in April 1966 when he was 19 years of age. Okada had done well enough that he could have joined a more prestigious university in the heart of Tokyo, but a love for his home town kept him grounded. "I did not want to move away from Osaka, so that's why I chose this school. But I still loved this university because I was really passionate about electronics research. I even came during the Summer holidays to study on my own, every day. I was rather gifted and my teachers praised my work."

In 1969, after several years of productive work at the faculty, he was advised by his research director to join Matsuo Denki, an exceptionally important and prestigious electronics company in the local area. Sadly for Okada, it didn't go to plan. "I had a job interview at Matsuo Denki, which I failed," he says. "When I told my teacher, I got quite an earful..." Okada had no backup plan, but then he had a chance conversation with a friend, which set him on an entirely new career path. "I said to myself, 'Okay, just find some work, quick! Anything! Anywhere! That'll do!' And it was [then that] a friend asked me to go for a job interview in his place. It was for a company called Nintendo. I vaguely knew the name Nintendo as a playing card manufacturer. But that was about it. This friend had actually applied for a job at Nintendo, but he was no longer interested. And he thought it was better to replace a candidate by another one, rather than just cancelling out of the blue. And since I really wanted to find a job, wherever it was, I jumped at the chance." Okada clearly did well in his interview, easily securing the job. In April 1969, he joined Nintendo and became the first real electronics engineer in the ▶

SELECTED TIMELINE

GAMES AND HARDWARE

- **N&B BLOCKS/LOVE TESTER** 1969
- **KOSENJU SP (OPTOELECTRONIC GUN)** 1970
- **LIGHT TELEPHONE LT** 1971
- **LASER CLAY SHOOTING** 1973
- **WILD GUNMAN** 1974
- **CHIRITORI** 1979
- **GAME & WATCH** 1980
- **DONKEY KONG JR.** [NES] 1982
- **DONKEY KONG 3** [NES] 1983
- **ROB** [NES/Famicom robot] 1985
- **METROID** [NES] 1986
- **KID ICARUS** [NES] 1986
- **GAME BOY** 1989
- **SUPER MARIO LAND** [Game Boy] 1989
- **MARIO PAINT** [SNES] 1992
- **GAME BOY POCKET CAMERA** 1998
- **GAME BOY COLOR** 1998
- **GAME BOY ADVANCE** 2001
- **GAME BOY ADVANCE SP** 2003
- **NINTENDO DS** 2004
- **GAME BOY MICRO** 2005
- **NINTENDO DS LITE** 2006



» The clamshell design of the Game & Watch series would later appear in both the Game Boy Advance and DS brands.

© Erik Voskuil

company. A new era was about to begin for both Okada and Nintendo.

Interestingly, while Okada was the first real electronics engineer at Nintendo, his first job for the company consisted of designing new N&B Blocks, which was Nintendo's low-cost version of the Lego-like plastic bricks. Surely this wasn't what Okada had in mind? "Was I disappointed when I was asked to design new N&B Blocks models? No, because I didn't even know what I was going to do anyway. I could very well have been sent as a maintenance guy for the production lines in one of their factories. In the end, I was involved in developing games and toys in the research division (soon to be R&D1), under Gunpei Yokoi's supervision. Since I was new, I just did what I was asked to do. I was learning new things." Even though he was mainly working with playing cards and plastic toys during this period, Okada has lots of fond memories of those early days. "I remember that sometimes, we organised promotional campaigns in the local stores to sell our N&B Blocks," he recalls. "For instance, Yokoi would design huge brick dioramas and we shared the work among ourselves in order to build them. In order to save time, we all made the building, rockets and other big elements directly at the office and the final assembling was done on site, in the store. But these big constructions took time and sometimes we had to spend whole nights in order to finish it before Christmas. I liked to design tracks for our electric trains that would run through our settings."



© Akinori Sao

» Okada has now retired from the gaming industry, after a successful career spanning 40 years.

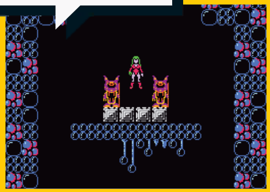
Fortunately for Okada, he didn't have to wait long before he finally got to sink his teeth into the electronics work that he so enjoyed. In 1970, Gunpei Yokoi decided that he would use photovoltaic cell technology for his brand-new project, an 'optoelectronic gun'. Okada received his big break. "The idea was great and I immediately knew it would sell well," he says. "Yokoi was very good with mechanics but he did not know much about electronics. So I was in charge of making it happen, to bring his project to life."

As Okada predicted, the first range of Kousenju SP optoelectronic pistols was a huge success in Japan upon its release in 1971 but Okada still holds a few regrets about the final product that shipped. "Yes, it sold well, but I mostly remember the users' complaints," he explains. "Because depending on the lighting of the room, our targets did not always work properly. For instance, in a neon-lit room, our targets had trouble detecting the light beam from the gun and they could be triggered at any time. The best way to use it was in a lightbulb-lit room. But it was my first big project and I still lacked experience. Fortunately, we improved the next range with the Kousenju Customs series."

Encouraged by the success of Yokoi and Okada's creation, Nintendo's president, Hiroshi Yamauchi decided to use the technology to create life-sized clay-pigeon shooting simulators called 'Laser Clay Shooting'. It was to be a new electronic game that was scheduled to replace bowling in Japan at that time. Unfortunately for Nintendo, it was hugely affected by the oil crisis of the time, which wiped out Japan's leisure industry in 1973. The many venues that had been previously excited about installing Laser Clay Shooting galleries started to cancel their orders, putting Nintendo in a dangerous state that was so bad their were concerns that the company could go bankrupt. It's a period Okada remembers well. "Nintendo was in such poor financial state. I remember that president Yamauchi came to see us and said: 'We need money.



FIVE TO PLAY The key portables and games from Satoru Okada



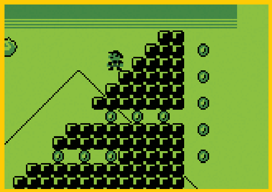
METROID 1986

■ This game helped spawn a subgenre and remains as atmospheric and immersive as it did when gamers first encountered it. *Metroid* not only introduced Samus Aran to a generation of gamers, but spawned a successful franchise, too. Satoru had the role of chief director, a position he also held for *Kid Icarus*.



GAME BOY 1989

■ The Game Boy is famously the creation of Gunpei Yokoi, but Satoru Okada also played an important role in its creation as the handheld's project leader. While its poor screen and monochrome colour display drew criticism from some users, amazing software support and great battery life made the handheld a winner.



SUPER MARIO LAND 1989

■ This is a delightful addition to the *Super Mario* franchise that is often forgotten due to its handheld status. Appearing on Game Boy as a launch title, it has everything you'd expect from a *Mario* game, but also throws some neat curveballs in the form of mini shoot-'em-up stages.



GAME BOY ADVANCE 2001

■ 'Advance' was an appropriate moniker for Nintendo's 2001 console. It was a powerhouse compared to the Game Boy, channelling the spirit of the SNES and featuring versions of the games from that classic system. Okada followed it with the Game Boy Advance SP two years later.



NINTENDO DS 2004

■ In many ways the DS saw Okada and his team go full circle, with the innovative touchscreen-based console featuring the same clamshell design that had first originated on the Game & Watch line Okada worked on. It was a phenomenal success for Nintendo selling over 154 million units across various revisions.

> **"The Game Boy you know had nothing to do with the one Yokoi had in mind"**
> Satoru Okada



» [NES] Working under producer, Gunpei Yokoi, *Kid Icarus* was a solid directional effort from Okada.

But in order for banks to lend us some, we need to show them that we have new fun projects to launch. In short, find me some new fun projects quickly, even if we cannot really sell them!' Since we still had a lot of material left from the Laser Clay, we came up with the *Wild Gunman* project in a hurry. In the end, the president liked it and he insisted we sell it. Nintendo got its loan. I took care of the electronic part and Yokoi took care of the video. For the shooting, we went to Dreamland, an amusement park in Nara which opened in 1961 and had western settings. We hired actors and American extras who lived in Japan for the videos. Unfortunately, this park is now closed and has been deserted since 2006. It's been a popular place for 'haikyoists' (people who to explore abandoned places)."

Despite moderate success for *Wild Gunman* things weren't going well for R&D1. Shortly after the release of *Wild Gunman*, Yokoi and Okada teamed up to create the Chiritori, a small remote-controlled vacuum toy, which was very original and clever, but failed to do any significant business for Nintendo. "Just before the Game & Watch, we created the Chiritori, which was one of our biggest misses," reveals Okada. "It was such a failure that our division was quickly losing our men, who went to work on other projects in other divisions. I remember that the atmosphere in R&D1 was gloomy. The room was huge but there were only a handful of us left alongside Yokoi, working on new ideas." It wasn't the greatest of environments to work in, but those difficult working conditions led to one of Gunpei Yokoi's greatest inventions – the Game & Watch. It's been revealed many times in the past how Gunpei Yokoi created the handheld range after watching a man play with a calculator on a train. Okada's memories are similar, but also pour water on many of the urban legends surrounding Nintendo's popular and highly-collectible device…



© Satoru Okada

» An early image of Gunpei Yokoi with Satoru Okada.

"It is true that Yokoi wanted to create a toy when he saw a man playing with his calculator on the train. But to say that this is the sole reason for the Game & Watch is not true," explains Okada. "What this memory from the train really created was the will to create a discreet toy for adults so they could kill time while on public transport. The idea to use a calculator screen actually came much later, especially since Yokoi's knowledge in electronics and screens was rather limited. For me, the real thing that gave birth to the Game & Watch is when we managed to get our hands on an MB Microvision. I loved this machine and I played the *Breakout* clone a lot. But we did not understand why the machine had to be so big! So we first tried to make a portable console that people could really carry in their pockets. Except that the screen resolution was very poor and the graphics were very abstract. Besides, we also thought that the idea of interchangeable cartridges was interesting but because of the Microvision's limitations, all the cartridges looked the same, both with their graphics and the concept of the games. So we said to ourselves: 'Why not have just one game per machine but with good graphics at least.' And this is when the idea of using a calculator screen became self-evident. All of this led to the birth of the Game & Watch. Yokoi would design the games and I was in charge of the technical part, the electronics and even coding the games."

While the calculator screens were fixed in place, it did allow for the detailed graphics that Okada and Yokoi craved. They were other advantages that the calculator screens offered over the typical dot matrix screens of the time, as Okada reveals. "Besides the fact that it was supposed to fit in a pocket, Yokoi also had another condition for the Game & Watch. He demanded that with only one battery, you could play for the whole duration of a return trip from Tokyo to Kyoto in the Shinkansen, which took six hours at the time. And only a calculator screen could make it possible."



© Erik Voskuil

» You can see the origins of the DS in the later models of the Game & watch, which featured dual screens.

The Game & Watch was a massive success for Nintendo, but something even bigger was just around the corner for Okada. The Game Boy would be a huge turning point in Okada's career, but its creation would also lead to big changes in his relationship with Yokoi, his direct superior…

"When I was young, I was rather stubborn and I often became angry at my superiors when I was trying to defend my ideas," Okada remembers. "The best example of this was the Game Boy. The Game Boy you know today actually had nothing to do with the one Yokoi had in mind. He saw the Game Boy as a direct follow-on from the Game & Watch, which meant a rather cheap toy, without any real business model and no long-term ambition. To give you a clear comparison, Yokoi wanted a Game Boy that would have looked like the Microvision and would not have lasted more than ▶



© Akinori Sao

> **"I made the Game Boy project my own. Yokoi just gave his approval"**
> Satoru Okada

one or two seasons. For instance, he did not care if there were third-party editors or not. Furthermore, he only wanted 'quick games', quickly completed and quickly forgotten. I wanted the Game Boy to have more ambition, closer to what the R&D2 had managed to do with the Famicom: a machine built to last, with hardware that was good enough to play a variety of quality titles. I was the assistant director of R&D1 and we had many arguments over this. In the end, he gave in and angrily told me: 'Okay, do what you want!' I then asked him: 'Fine! But are you giving me full responsibility?' and since he said 'yes', I made the Game Boy project my own. Yokoi just gave his seal of approval. In the end, the Game Boy is much more similar to the Famicom than the Game & Watch. The hardware was good enough to offer a wide range of games and we were ready to welcome third-party editors, with a real development kit, instruction booklets, some real support, etc.."

This account is important in understanding not only how the Game Boy was born, but also how the structure of Nintendo worked at the times. Okada's words reveals that even though Yokoi remained in charge of the project due to his position in Nintendo's hierarchy, it was actually Okada who imposed his vision. Okada is convinced that if Yokoi's original idea had been implemented the portable console industry would be very different to the one today. He's also adamant that the Game Boy would never have turned into a world-famous brand and that games like *Pokémon* would unlikely exist like they do today.

Due to Satoru Okada's involvement with the Game Boy and its worldwide success, he's amassed a massive amount of knowledge about the entire Game Boy range, and his career advanced as a result. Shortly before Gunpei Yokoi left Nintendo, Okada became the director of technical development at Nintendo. He

OKADA'S HANDHELDS

GAME & WATCH (COMBINED UNITS)



43 MILLION

GAME BOY (COMBINED UNITS)



119 MILLION

GAME BOY ADVANCE



37 MILLION

GAME BOY ADVANCE SP



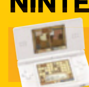
43 MILLION

GBA MICRO



2 MILLION

NINTENDO DS (COMBINED UNITS)



154 MILLION





» [Game Boy] *Super Mario Land* remains a fun addition to the series.



» Okada (right) presenting the *Wild Gunman* arcade machine at a trading show in London.

was the supervisor for the development of Nintendo's follow-up to the Game Boy, the Game Boy Color, and was also heavily involved with the Game Boy Advance and Game Boy Advance SP. It's the Nintendo DS that became his biggest success however, a device that was seen as being something of a gamble for Nintendo at the time. Instead it became its bestselling handheld ever, selling over 154 million units across its entire range. Interestingly, the DS actually started off life as part of the Game Boy brand, as Okada reveals. "Actually, after the SP, we were working on the newest model in this range. The code name for this new Game Boy was IRIS, like the flower. The explanation for this name is simple: since it was for us the fifth generation of Game Boy, we chose the symbol of May (the fifth month of the year). In the Hanafuda playing cards, the month of May is symbolized by the iris. The project was moving forward at a good pace but during the development, something unexpected happened."

That something turned out to be Sony's PSP and it was getting Nintendo very worried. Although Hiroshi Yamauchi, who was only involved on the IRIS project as an honorary advisor, he was worried about the next Game Boy. He had a telephone conversation with Nintendo's then-president, the late Satoru Iwata, about his idea, which was then relayed to Okada. "President Iwata then came to see me," Okada recalls. "He was obviously bothered and he said: 'I talked to Yamauchi-san over the phone and he thinks your console should have two screens… A bit like the multi-screen Game & Watch, you see?' Everybody is aware of this, but what people do not know is that at the time, everybody hated this idea, even Iwata himself. We thought it did not make any sense," confirms Okada when we asked him why everyone was so against the very thing that helped make the DS such a success. "Back in the Game & Watch days, it was different because a second screen allowed us to double the playing area and the number of graphic elements on display. But with the modern screens, there was no point. We were free to choose the size of our screen, so why bother splitting it into two? Especially considering that it was impossible to look at both screens at the same time. This is why we did not understand his idea."

Unconvinced with Yamauchi's reasoning and knowing he was in charge of the IRIS project, Okada spoke to Iwata and pleaded with him to let him speak to Nintendo's CEO, so that he could change his mind. "Unlike many people in the company, I was not afraid of Yamauchi-san," Okada continues. "I had already fought with him over different issues and I also sometimes publicly opposed his ideas. But Iwata turned me down and said: 'No, we will still give it a try. See what you can do with [it].' We were both bothered by this, especially since it meant that we had to start all over with our project! So I tried to put my team at ease and I told them: 'I have some experience working with double screens, we will give it our best shot and we'll see, don't worry.' It became project Nitro, released in 2004 under the name Nintendo DS…"

So does Okada regret that he never got to have that conversation with Yamauchi? "President Iwata [knew] I was bold enough to oppose Yamauchi-san. Nobody else was bold enough to do it," he ponders. "And he probably thought that if I went to see him, our talk would definitely end in an argument. Who knows what would have happened, Yamauchi might have given up and say: 'That's enough Okada! Do what you want, I give up!' It had already happened in the past. And then, I would have to admit that the DS would have never seen the light! So Iwata was right to turn me down and Yamauchi's idea turned out to be excellent!"



» *Parachute*'s gameplay is simplistic, but exceptionally addictive.

When Okada left Nintendo, he left a legacy behind him that few others could match and it's somewhat sad that so little information is available about his impressive career. How does he feel about the company that made such a big impact on his career? "My wife often tells me I am the happiest man in the world," concludes Okada, "because throughout my life, I only did what I wanted! I did as I pleased and I only developed products that I was interested in… I rebelled against my superiors, I took my days off whenever I pleased, etc.. In short, I was not a typical Japanese model employee, but Hiroshi Yamauchi and Satoru Iwata still had faith in me. That's why they often came to seek my advice when they had doubts over a decision they had to make."

Working with two of Nintendo's most prominent figures is certainly not to be sniffed at, but the same can be said about Okada's own achievements. He's a legendary figure that's had a huge impact on Nintendo's games. Here's hoping more gamers get to learn about his astonishing career. ★

Special thanks to The Game Magazine



» The Kosenju series was a smash hit in Japan in the early Seventies.

© Erik Voskuil



RETROREVIVAL

Mercenary

ADVENTURES IN SCUMBAGGERY

» ATARI 8-BIT
» NOVAGEN » 1985

It's amazing to look at *Mercenary* now and think how immersive it was. With little more than wireframe objects, some text and slabs of colour, you could really get into the narrative that you were stranded on the alien planet Targ and trying to find a way off it. Of course, part of what helped with all that was simply the ability to fly anywhere you'd like, get into combat situations and even wander underground. However, for me, the true draw of the game laid elsewhere.

There are two warring factions on Targ, the native Palyars and the invading Mechanoids. When you're a skilled combat operative, you can sell your services to the highest bidder, so that's exactly what I did – and that's how I ended up siding with the Mechanoids, in an act of questionable morality. If games can reveal anything about an individual's personality, what they revealed about mine is that I believe personal success is more important than external morality – the ends justify the means, even if that involves bombing the crap out of buildings in order to hand control of a relatively blameless planet to a hostile invading force.

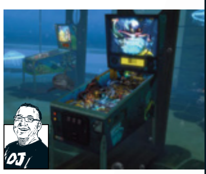
Once I'm drawn into doing some dirty deeds, it doesn't matter how abstract the visual representation of my target is – I can settle into my natural way of doing things, even if getting involved in a conflict I have no personal ties to is somewhat dubious. But that's okay, isn't it? After all, I've never pretended to be a nice person. *


SPEED
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>> Lots of cool stuff this issue. There's the long-awaited release of Final Fantasy XV, a look at two retro-inspired VR games and the latest Pokémon, which is apparently quite good

★ PICKS OF THE MONTH



DARRAN
Pinball FX2 VR
After years of moaning to my wife, I now have a full-size pinball table at home. Sadly, it's not actually real.



DREW
Final Fantasy XV
It's been a while since I've been captured by the sheer majesty of a gaming world and *FFXV* has caught me like a Pokémon.



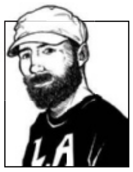
[3DS] Some older-generation Pokémon have new forms in the Alola region.

Pokémon Sun & Moon

IT'S STILL SUPER EFFECTIVE

INFORMATION

- » **FEATURED SYSTEM:** 3DS
- » **RELEASED:** OUT NOW
- » **PRICE:** £34.99
- » **PUBLISHER:** NINTENDO
- » **DEVELOPER:** GAME FREAK
- » **PLAYERS:** 1-4





Alola is a strange place. A place where familiar Pokémon look radically different, from the comically tall new Exeggutor to Persian as drawn by Jim Davis, from a mustachioed Rattata and its plump evolution to a bodacious Raichu redesign that seems to evolve with a copy *Point Break* on VHS rather than a Thunder Stone. A place where there is no Gym structure and no set of eight arbitrary badges to prove a Trainer's ability. A place where one's own Pokémon are incapable of learning the moves necessary to navigate the environment, with such tasks instead made the duty of a selection of handy rental Pokémon. A place where, as is probably starting to become clear, the usual rules of Pokémon don't apply.

There *is* method to GameFreak's madness. Ask anyone who has fallen out of love with the franchise in the last two decades and they'll likely cite stagnation a primary reason – the base template of the game barely changed between the original games and *Omega Ruby & Alpha Sapphire*, and it was time for a change. The shift away from the Gym system, bold as it may be, is necessary and its replacement is not as far removed as it first appears. Trials are quests where Trainers are assigned a variety of tasks from Captains, usually involving battles and puzzles not unlike those you would find inside a Gym. Free from the shackles of a four-walled arena, though, these are much more creative, with the Totem Pokémon that lie in wait at the end of each Trial feeling more like classic RPG boss battles than a Trainer sat at the back of a room waiting, badge in hand, for you to plough through their minions.



BRIEF HISTORY

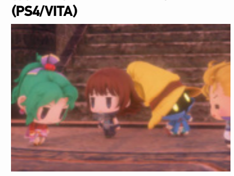
» 20 years ago, a monster was born. A Pocket Monster, to be precise… well, 151 of them, actually. Fast forward two decades and there are now over 800 different Pokémon to catch, train, trade and battle, and *Sun & Moon* represent the boldest and most revolutionary shifts to the core Pokémon template in two decades.

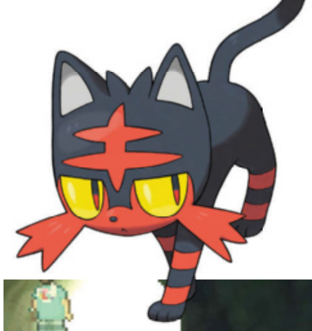
★ WHY NOT TRY

▼ SOMETHING OLD
POKÉMON YELLOW (GAME BOY)



▼ SOMETHING NEW
WORLD OF FINAL FANTASY (PS4/VITA)







[3DS] Character models for both humans and Pokémon are now scaled properly.



Similarly, the Alolan revisions of old Pokémon help address an imbalance that *Pokémon GO* recently helped make abundantly clear. With the Dark and Steel types being added in generation two and Fairy introduced in *X & Y*, the original 151 show minimal variety today in terms of types. Redesigning older creatures for Alola's new climate presented the perfect opportunity to cover these bases and even to play with stat distributions to help make previously weak Pokémon competitive, but it only really succeeds on the former front. Base stats don't change enough to give low-tier Pokémon significant boosts and some of the new type combos are just horrible. An 'A' for effort, however, and this is a mechanic that can be explored in future games.

As for the removal of HMs – Hidden Machines, the items that would teach your Pokémon moves like Surf, Fly and Cut that could be used both in battle and outside of combat for exploration – it's perhaps the single best quality-of-life improvement the series has ever enjoyed. While thematically strange, you'll never again be caught short without a Surf user while an item taunts you from across a river, and you no longer need to waste a party slot on a HM packhorse. Access to these abilities is still gated, but this is a more convenient and elegant solution than ever seen in the series before.

Quality of life is vastly improved in general, actually. Even more steps towards full visibility on all the hidden stats and complex mechanics operating under the hood are welcome, with Individual Values and Effort Values (the unseen stats that determine a Pokémon's ability) both visible in-game for the first time. The former, fixed at the time a Pokémon is generated, can now even be manipulated via Hyper Training, lowering the barrier to competitive play considerably by making perfect Pokémon achievable without the breeding knowledge or blind luck that was previously necessary to get top-end companions. Similarly, the Poké Pelago system means you can boost friendship, EVs and experience as well as grabbing Berries and rare items without your extra Pokémon ever even having to leave the storage box. Convenience is at an all-time high, and Trainers will wonder how they ever managed without these features.

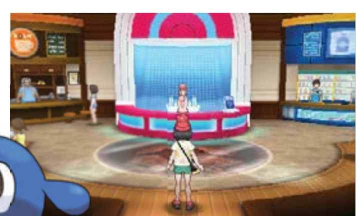
Last generation gave us Mega Evolution, whereby certain Pokémon could evolve into enhanced forms in battle. Some of these would go on to dominate the competitive meta, and *Sun & Moon*'s new mechanic seems designed to redress that balance. Z-Moves – powerful once-per-battle nukes enabled by holding an crystal – give powerful options to *every* Pokémon and present a way for standard teams to counter whatever Megas rule the scene and that can't afford to eat such devastating attacks. Far from the game-breaking feature we feared they could be, Z-Moves add a new level of strategy, especially since support moves can be Z-enhanced for a variety of beneficial effects, the true value of which will be learned as the competitive scene evolves.

Add to all of these intelligent, player-focused changes one of the best campaigns in the series' history and some cool new features that let you explore beyond the Alolan Pokédex and there's a case to be made for *Sun & Moon* being the most positive steps forward for the franchise since *Gold & Silver* so brilliantly improved on the original framework. Post-game content could be a better – aside from multiplayer and Pokédex completion, it's pretty much just a few side-stories and a battle tower – but it's *enough*. *Emerald* and *Platinum* spoiled us in that regard, and there's plenty here to keep Trainers occupied once they've been crowned Alola's Champion. Game Freak still wants to be the very best, clearly, and it's edging ever closer to its noble goal. *

In a nutshell

Massive changes hit far more often than miss, resulting in a new kind of *Pokémon* experience that feels fresh and exciting on almost every level.

>> Score **91%**





DO THE EVOLUTION

How a few first-gen favourites change in Alola

Ninetales

Old Type: **FIRE** New Type: **ICE/FAIRY**

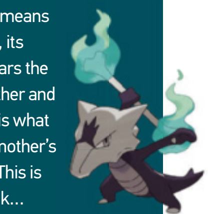
Between the new look, the good typing and great new Abilities and moves, Ninetales fared best in the move to Alola. A shoo-in on a Hail team, where Aurora Veil can give you Reflect *and* Light Screen in a single turn.



Marowak

Old Type: **GROUND** New Type: **FIRE/GHOST**

The new Marowak unsettles us with what its new typing means canonically. Cubone, its unevolved form, wears the skull of its dead mother and is always sad – is this what happens when the mother's soul takes control? This is darker than you think…



Sandslash

Old Type: **GROUND** New Type: **ICE/STEEL**

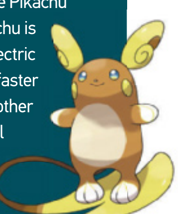
Sandslash must have been one of the first in line for an Alolan makeover. It's a pity, then, that Game Freak chose to barely alter its middling stats and curse it with one of the worst defensive typings in the game.



Raichu

Old Type: **ELECTRIC**
New Type: **ELECTRIC/PSYCHIC**

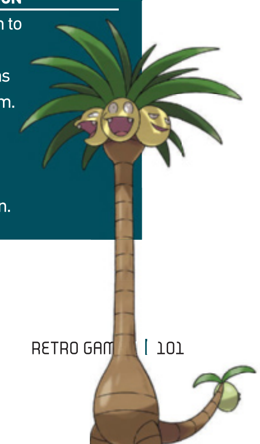
Not that you'd ever evolve Pikachu anyway but this new Raichu is an odd one. Under the Electric Terrain arena status, it's faster than more or less every other Pokémon, although it still doesn't really have the attack stats or bulk to compliment it.



Exeggutor

Old Type: **GRASS/PSYCHIC**
New Type: **GRASS/DRAGON**

We never paid attention to the dumpy tree back in the day, because its was outclassed by Alakazam. It'll probably see a little more play now, if only for comedy value – it barely fits on the screen.



RETROROUND-UP

>> Every month we look at all the classics and latest releases that are available to buy or download

Final Fantasy XV

» **System:** PS4 (tested) » **Cost:** £49.99 » **Buy it from:** Retail, online

The story of *Final Fantasy XV*'s development is a long and turbulent one, and you only need to look in the direction of *Duke Nukem Forever* as an example of what could go so horribly wrong in these situations. Thankfully, that's not the case with *Final Fantasy*'s new instalment.

While not perfect by any stretch, the game more than delivers on what it set out to do – bring you a new breed of *Final Fantasy* that draws its inspiration from Western RPGs and real-life locations. You only need a glimpse of the game to see the DNA of *The Witcher* and *The Elder Scrolls* present in its open-world approach, complete with hunts and quests from NPCs that can be tracked on your map.

JRPG enthusiasts and *Final Fantasy* fanatics may be quick to criticise the lack of any turn-based, ATB-like combat, however *Final Fantasy XV*'s combat system, while a little confusing to get to grips with, works in creating a dynamic battlefield that almost feels choreographed, despite it being completely procedural.

The game does suffer from some, frankly, antiquated problems, though – namely a stubborn camera. In an attempt to keep the camera close to the characters, to show off bravado and how your party plays off one another in battle, the camera can get trapped in bushes, walls and other creatures, making for a frustrating experience that shouldn't be an issue in modern gaming.

That said, *Final Fantasy XV* knows where its strength is: its four main characters. While you may not like Noctis and his friends to begin with, the more time you spend with them – hunting monsters, exploring tombs, bumbling around in the Royal Family's car etc. – the more you'll long to be part of the entourage. Square Enix has portrayed one of the most 'real' friendships that we have ever seen in videogames, and the game is worth recommending on how that relationship permeates every facet of *FFXV* game, from combat to story to simply levelling up.

While not perfect, *Final Fantasy XV* feels like a return to form and a logical, and interestingly unorthodox, evolution for the series. We can't stop playing it.

>> Score **84%**

✱ PICK OF THE MONTH



» [PS4] Does it have Chocobos? Check. Then it's a *Final Fantasy* game.



» [PS4] The relentlessly-close camera can get disruptive in hectic battles.



» [PS4] Magic takes a backseat in this *Final Fantasy*, acting as glorified grenades.



Super Mario Maker

» **System:** 3DS
» **Buy it for:** £34.99 » **Buy it from:** eShop

In many ways, the 3DS version of this level creation package is a big improvement on last year's Wii U outing – you get the vast majority of tools from that version and you get many of them much sooner, allowing you to get stuck into the fun of creating awesome Mario levels with less hassle. Nintendo has also included 100 very cool prebuilt levels for you to play straight away, each of which has a couple of unique challenges.

Unfortunately, despite being able to download Wii U-created levels from the internet, you can't actually share your 3DS-created levels online – they can only be shared via StreetPass or directly with friends. No matter how excellent the level creation facility is, the limited audience for your handiwork greatly diminishes the game's appeal.

>> Score **64%**

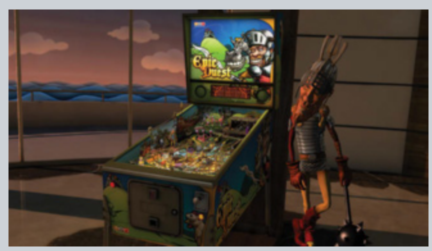


Crystal Rift

» **System:** PS4 (tested) PC
» **Buy it for:** £7.99 » **Buy it from:** PSN, steam

Fans of *Dungeon Master* and *Eye Of The Beholder* will certainly be at home with *Crystal Rift* as it riffs on those classic nostalgic dungeon crawlers. The game is rather effective in virtual reality, too, thanks to the suitably claustrophobic feel of the tunnels that help to hide the otherwise primitive look of its visuals. The dungeon layouts are relatively well designed and the puzzles get quite clever as you delve deeper and deeper into the game, but it never gets near the majesty of *Legend Of Grimrock* or the classics it's so clearly based upon. There's no denying that *Crystal Rift* represents excellent value for money at just £7.99 but the lack of variety in its monsters, inability to map levels and its basic combat system means that the game won't be for everyone.

>> Score **61%**

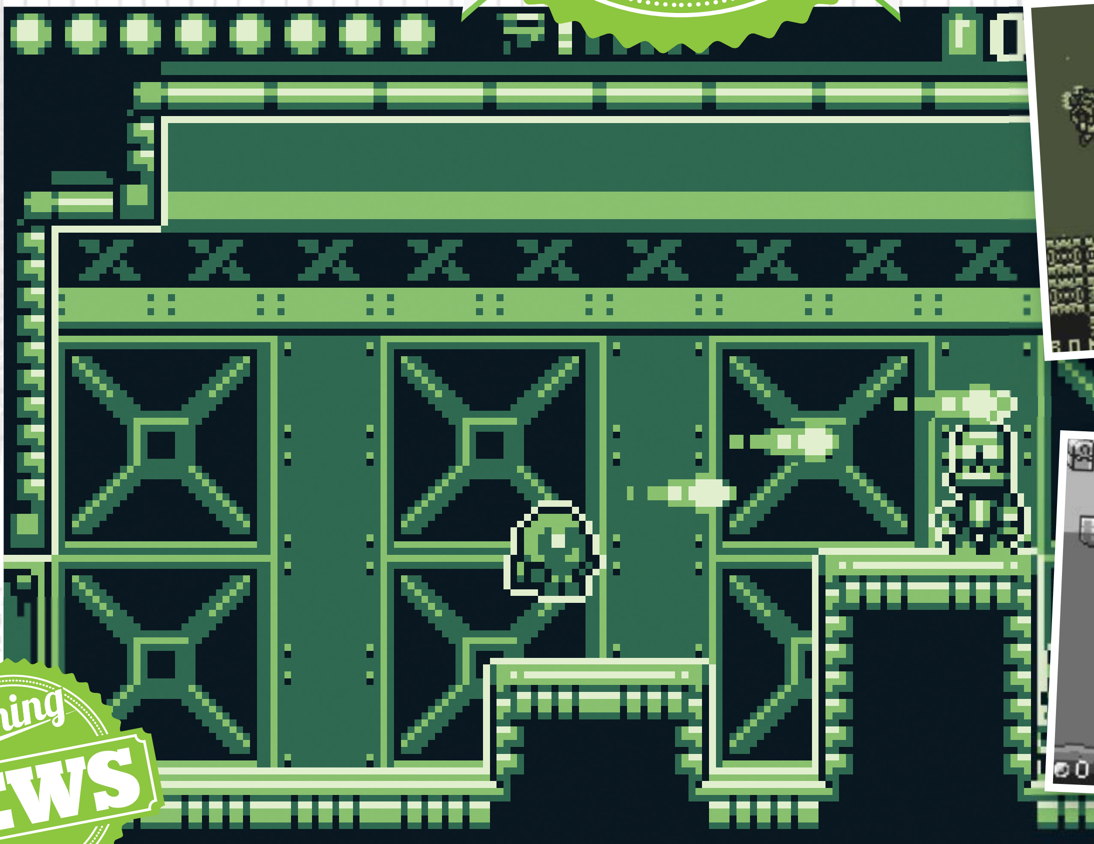


Pinball FX2 VR

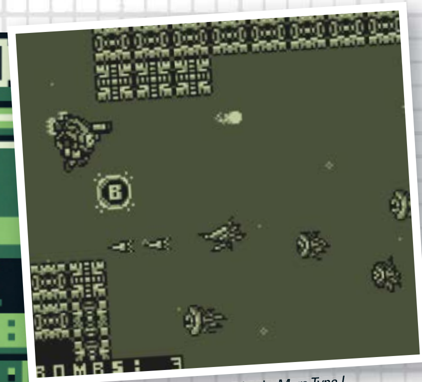
» **System:** PS4 (tested), PC
» **Buy it for:** £11.99 (expansions £4.99 - £19.99)
» **Buy it from:** PSN, steam

Zen Studios is a master at creating imaginative and well-designed pinball tables, and now it's slowly converting its back catalogue of classics to the exciting world of virtual reality. The change is a lot more significant than you might think, as it puts a full-size pinball table in front of you, which is quite the sight to behold. The three tables are significantly improved as it's easier to gauge the elevation of ramps, it is simple to follow the ball's movement around the table and you can move forward to look at areas just as you would with a real table. There are cool incidental effects happening in the background (like a shark that swims around you, for example) and the presentation throughout is incredible slick.

>> Score **83%**



» [Windows] Turning on the Derelict's power is fraught with danger.



» [Web] Horizontal blasting in *Mars Type I*.



» [Web] *Bob&Dob* seems a little fishy...?

GAMEBOY-FLAVOURED JAM

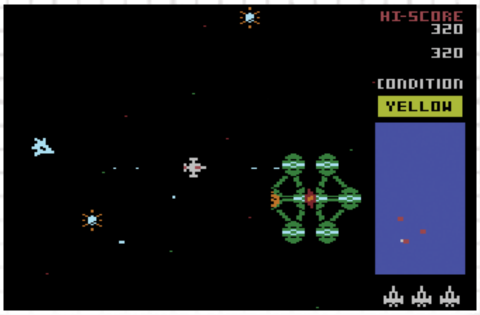
We've covered a couple of the previous GBJam events here already – for the uninitiated, though, they are competitions where entrants are challenged to produce games for modern platforms that stick to the rules laid down by Nintendo's handheld. This time there was a staggering 400 entries running either on Windows, macOS or through a web browser, with some of them coming from Japanese developers.

Sifting through, we've found some absolute crackers; there are a few action platformers such as the no-nonsense *Shuriken*, the slightly more surreal *Monkey Warp* – which has the 'teleporter boomerang banana' – or competition winner *Derelict*. The latter of which has some very neat touches, like floating gently past inanimate defence droids before restoring power activates both them and the artificial gravity to completely change the game. *Turbo Squad* is also platform-based but billed as a "multiplayer turn-based platformer/ racing game" by its developers, supporting up to six humans as they guide the various members of the titular superhero team.

Straight-out shooting comes in a number of forms too, with *Mars Type I* going for no-nonsense horizontal scrolling while *Slugcaster* is more of an arena shooter with lots of pyrotechnics. *Yokoi-san Warp* has the player using a high-tech 'warp gun' to instantaneously swap places with an opponent in order to place them directly in the path of their own bullets.

There's also a dungeon-crawler with something of a twist called *Legend Of Ball* where destroying enemies and solving puzzles is all done by throwing a ball instead of shooting, or how about some one or two-player swordfighting action with *Shinkendo*, perhaps? Finally, there's *Bob&Dob* which is an incomplete and slightly bugged, but incredibly cute-looking, fishing game where the player controls a swimming dog. The programmers have promised a more complete version which extends the game and deals with its bugs.

In fact, quite a few of the games entered into the competition are considered to be incomplete or in beta at the moment, but development seems to be ongoing in those cases and the large range of entries that can be found at Kikstart.eu/gbjam-5 should keep most gamers entertained for quite a while. Hopefully there are a couple of titles there which could inspire Game Boy developers to convert them onto real hardware, a couple probably wouldn't be possible without concessions but most should be.



» [Atari 8-bit] First stage, you really blew my mind.

BLAST OFF

Atari 8-bit owners who enjoy a good shoot-'em-up have something new to keep an eye on. There's been lots of excitement at the Atari Age forums over a conversion of multi-directional blaster *Bosconian*. It's still ongoing, so the developer puts updated binaries up quite regularly – we're linking to the discussion behind Kikstart.eu/bosconian-a8 where there's a download, but things will have moved on before this goes to print – and it looks like there will be a full-fat version for 128K machines or 64K owners can go for the semi-skimmed option.

> **"It's still ongoing, so the developer puts updated binaries up regularly"**


» [Amiga] It looks like a raid over a river.

BURNING BRIDGES

Bridge Strike for the Amiga is currently a work-in-progress homage to Carol Shaw's addictive vertically scrolling blaster *River Raid*. Kikstart.eu/bridge-strike-yt links to a YouTube video from the developers of what they're referring to as version 0.3, but there's a download in the description – it's a single file to execute from floppy or hard disk – and it's already in a playable state. From what we've seen, the graphics have received a 16-bit overhaul but the core gameplay is currently sticking closely to the template set down by the 1982 classic.

HOMEBREW HEROES

Daniele Liverani is the creative force behind both the game Genius Into The Toy Warehouses and the rock opera it's based on - GeniusRockOpera.com – so we had a chat about inspiration and the Apple II

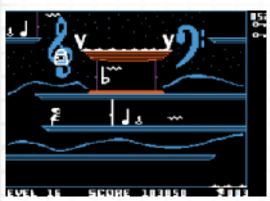


THE BIG INTERVIEW
DANIELE LIVERANI

To begin with, where did the idea originate?
Genius is a rock opera that I wrote years ago and was released on three audio CDs in 2002, 2004 and 2007. Genius is a young boy who gets caught in this dreaming world during a 'strange awakening process' that takes place one magic morning. He meets an entity called Twinspirit that has been assigned to him as responsible for creating his fantasies during his dreaming, and this meeting creates a paradox that will cause lots of troubles to be solved to avoid a dangerous exploitation of the dream world by humans.

I took a specific scenario from this concept called the 'toy warehouses'. These magical and dangerous places contain all the 'toys' used for human dream creation. I designed eight of these warehouses, placed in various dream world locations and developed an action game where Genius runs through these magic places, trying to unlock all the doors of its secret chambers and grabbing the keys and toys to complete the opening sequence to reach the final bigger target toy room, where he can continue to the next level.


» [Apple II] This has struck something of a chord with us.


» [Apple II] Trying to hit the right note while avoiding the wrong ones.

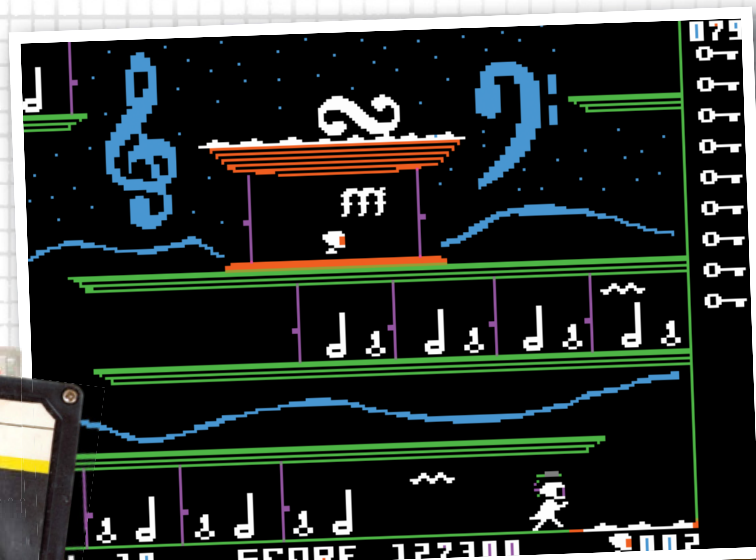
How long did *Genius* take to program?
In 2012 I found my old Lemon II, which was a popular clone of the Apple II in Italy in the Eighties. I tried to restore it, with no success by the way, but this computer I self-built in the Eighties turned back on my flame for the Apple II family. I started to search the web and found that there were still active Apple II communities.

I learned some basics about 6502 assembly and Apple II hardware making some easy programs, one of those was the early version of Genius that was coded very simply with no care for speed and optimization. I bought an Apple II+, Apple IIe, some Mockingboards and built a lab for testing and enhancing the game to a more professional level. It took a year and a half to enhance the engine fast enough to handle the action, level design and features.

And why was the Apple II chosen as a platform?
Apple II was the first computer I self-built in the Eighties and there's a personal connection to that computer family that lives inside of me since then.

Were there any high or low points during the development?
I really had no low points, of course there were lots of things to discover, it's been so much fun to dig into the documentation of the Eighties and find out about tricks, known bugs, solutions to allow the game to run in all different models of Apple II.

What kind of feedback have you had so far?
The game was played by a lot of players I met in Apple II groups, their feedback was positive. I created a group of beta testers that were kind and professional in testing the game and gave me feedback about possible suggestions.


» [Apple II] This probably isn't going to end well!

Gaming REVIEWS

· DO YOU · REMEMBER?

There's another invasion from the heavens in *Xmas 'Roids* on the C64, but this time it's quite subtle. The aliens are using robotic copies of ornaments to take over the world by corrupting the tapes of computer games as they wait for their prey under festively-adorned trees! But not all is lost and there's an unlikely hero to take them on, a flying Christmas tree that lobs snowballs about.

This is a clone of the venerable *Asteroids* written as a festive gift for users of UK online service Compunet by Dave 'Ubik' Korn – who went on to write Firebird's *Arcade Classics* – which changes a few gameplay elements; UFOs are now puddings that can't harm the player but act as an obstruction and, along with the traditional three lives, the tree also has a shield. Kikstart.eu/xmas-roids-c64 will take you there.



» [C64] Lots of baubles, but no bangles or beads to be seen anywhere.



» [C64] It's never adequately explained how a Christmas tree has shields... or snowballs.





MERRY CHRISTMAS FROM HORACE

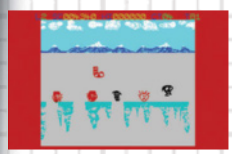
» **FORMAT:** ZX SPECTRUM » **DEVELOPER:** STEVE BROAD » **DOWNLOAD:** STEVEBROAD.CO.UK » **PRICE:** FREE



» [ZX Spectrum] Something tells you that you've got to escape…



» [ZX Spectrum] Poor old Horace can't catch a break.



» [ZX Spectrum] Where does an ill Santa go? The National Elf Service!

It might be the night before Christmas, but there are still a lot of creatures stirring and one of them is Horace; for some inexplicable reason there are Christmas presents falling from the night sky that need to be collected in preparation for the big day and, with so much previous experience of such action-packed adventures and familiarity with a few of the nasties who are out to ruin the festive season for children across the land, he's probably the best candidate for the job.

The action takes place balancing above a number of precarious environments – Horace finds himself leaping between, among other things, the carriages or goods wagons of a moving train and rooftops - with those all-important presents in jumping distance above him. There are also some familiar foes patrolling what passes for the ground and, as our hero progresses through the levels, they're joined by more enemies including some above Horace's head which make timing the jumps over hazards or gaps in the landscape trickier. The introduction of the snowflake changes the game considerably, so simply keeping Horace in the air no longer works and jumps need to be timed more carefully, while the elves are nasty little ground-based blighters that have to either be dealt with quickly or avoided.

There's also the occasional bell to grab out of the air which causes a bonus item to be released; these include score and time bonuses or, a very temporary shield. While the time limits are reasonably generous even without the aforementioned extension, we did find the collisions to be a little Scrooge-like so, although enemies can be stomped on for a score bonus, it takes some practise to get that move right and beginners to the game are probably wise to avoid using it unless necessary to avoid mistimed deaths. But it wouldn't be a *Horace* game without being challenging and, although there might be frustrating moments, Spectrum owners will enjoy giving it some of their attention.

>> **Score 80%**

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MOONSPIRE

» **FORMAT:** COMMODORE 64 » **PRICE:** £30
» **DEVELOPER:** RGCD
» **DOWNLOAD:** KIKSTART.EU/MOONSPIRE-C64

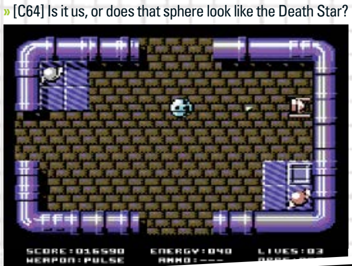
Humans on the world of Arcturus 7 were trying to make the place a little more hospitable when they inadvertently brought down the might of the Draxx armada on themselves; the planet turned out to be the Draxx homeworld and they weren't pleased with the idea of humans redecorating the place.

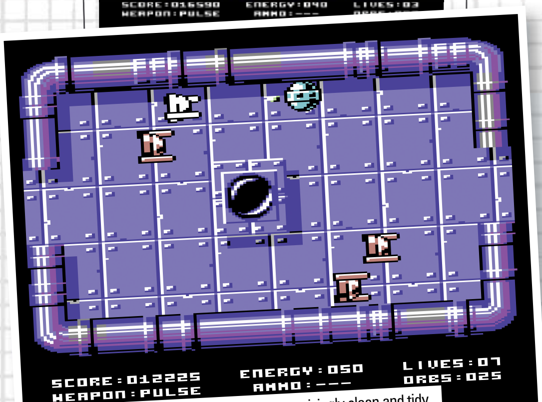
There's a huge structure on the surface of Acturus 7's moon which is the base used for the Draxx attacks so the player is given a cobbled together assault craft and the job of going in, retrieving all of the stolen control orbs and dishing out some retribution. Crates of ammo and health packs should come in handy too.

Moonspire isn't easy especially on the higher difficulty settings and will sometimes be a little unfair, but crashing around the Draxx stronghold is very entertaining and backtracking through each level after it's cleared can be an eerie experience too.

» Score **81%**

» [C64] Is it us, or does that sphere look like the Death Star?





» [C64] These invaders have kept the place surprisingly clean and tidy.

PANG

» **FORMAT:** EXPANDED ATARI 8-BIT » **PRICE:** FREE
» **DOWNLOAD:** KIKSTART.EU/PANG-A8 » **DEVELOPER:** TOMASZ BIELA

Ever fancied travelling the world and popping bubbles? Well you're in luck because *Pang* on the Atari 8-bit is based on the coin-op of the same name and lets wannabe explorers do just that! For those unfamiliar with the format, it's a little like *Asteroids* with gravity; bubbles bounce around the playfield, splitting into two each time the player's harpoon line touches them until there's nothing left. There are also platforms, ladders and other obstacles to work around, so reflexes alone won't save the day.

This isn't a straight conversion of the Mitchell coin-op – apart from cosmetic details there's an energy gauge for the player which means one hit is no longer fatal – and feels easier to play overall, but it still works well as a game and anybody with an expanded Atari 8-bit and the 192K of extended memory required to run it really should grab this at once.

» Score **89%**

» [Atari 8-bit] I'm an archaeologist from the future, I dug you up.







ROUNDUP

The original Game Boy has recently gained a new *Breakout*-style wall breaking bat and ball game for its library which takes a couple of elements from *Arkanoid* for good measure. It's called *Retroid* and it looks and sounds pretty good as well. Kikstart.eu/retroid-gb goes to developer Jonas Fischbach's website where there's an archive to download containing a ROM image and some mocked up authentic-looking box art.

Willy's New Mansion for the Spectrum is a reworking from 2004 of *Jet Set Willy*, but the developer behind it has recently put out a special edition version which improves on that original release. There are 66 different rooms to work through behind Kikstart.eu/wnm-se-spec but readers wanting discover this new mansion themselves shouldn't scroll the page down too far because it's packed with screenshots.

MAGICA

» **FORMAT:** AMSTRAD CPC » **DEVELOPER:** JUAN J. MARTÍNEZ » **DOWNLOAD:** KIKSTART.EU/MAGICA-CPC » **PRICE:** FREE

The Sorceress is rather annoyed that her potions have been stolen and wants to get them back, but she'll have to deal with a horde of enemies to achieve her goal. One of the thieves can be temporarily stunned with a magical spell and a swift kick turns them into a fast moving weapon which can, if timed right, also stun any of the other nasties who are in their way.

Magica feels quite similar in gameplay terms to titles like *Rodland* or *Bubble Bobble* and that's never a bad thing; it's a fast-paced action game with strict time limits – the later levels have fairies dropping bonus items to top the clock up – but needs a little strategy too as new enemies are introduced which fly or have forward-facing shields. Working out the optimal route and how to use the enemies against each other adds to an already solid platformer.

» Score **80%**





» [Amstrad CPC] If in doubt, why not knock over one goblin with another?

» [Amstrad CPC] And I don't care if you don't want me. I'm yours right now.

MAILBAG

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» The Cisko Kidd is not happy with the high prices scalpers are charging for the NES Mini. We're amazed people are paying the inflated prices.

STAR LETTER

GAME GIRL ADVANCE



» We're very jealous of Faye Evans' fantastic retro collection. Particularly her Game & Watch games…

Dear **Retro Gamer**
I have never really written to a gaming magazine before, but after reading through issue 161, and the main article about *Pokémon*, I became inspired.

I think I am what you would call a rare breed – I am a girl gamer who loves to collect old systems. I started gaming back in 1998 with my first console being a PlayStation and a copy of *Pokémon Red* for Game Boy. Yet it was only in 2015 when I discovered your fantastic magazine and started to collect game consoles. Since then, I have amassed quite a collection of games from the early Nineties onwards. I feel like I missed out on so much back in my childhood, so it feels wonderful to boot up my N64 and play the legendary *Super Mario 64* – a game I never played back in the day.

I was wondering if you get many girl gamers who are retro game fans/collectors like myself. I remember seeing at least one letter from one female reader but can't remember if I saw another. I am guessing we must be few and far between!
Emma Miles

Hi Emma. We've actually featured a fair few female retro gamers in our Collector's Corner pages over the past couple of years, including Faye Evans last month. We also try to interview prominent female fans when possible, such as the retro gaming artist Maya Pixelskaya. As luck would have it, there's even another female reader in this month's Mailbag!

So while you're right to assume that our readership (and the hobby at large) is mostly male, we reckon there are more female retro gaming fans and collectors out there than you might have imagined. After all, retro gaming is something that everyone can enjoy, no matter whether or not they're in possession of a Y chromosome.

GOUGERS NOT WELCOME

Hi **Retro Gamer**,
Need no sympathies here, but I was the unfortunate victim whose preordered Nintendo Classic Mini was lost in the post in transit to my old home address (or supposedly swiped, by a member of the public).

Despite the refund, what angers me is that some people who bought the 30th anniversary edition of the NES are reselling them at prices over £200 (actual price £49.99) on Amazon, where it no longer retails due to popular demand and lack of stock. It's no better than ticket touting!
Cisko Kidd

It's always unfortunate when something doesn't turn up, so we're sorry to hear that. The good news is that while Nintendo is usually too cautious with its initial shipments of products, it will never leave the market to scalpers when there's money to be made. If you need any proof, look at the Amiibo craze – some of those were selling for ridiculous money, but now all of the standard models can be bought for close to RRP. We don't imagine it'll be too long before the Nintendo Classic Mini is readily available for its actual value once again.

PAGES OF PAIGE

Hi **Retro Gamer**,
That interview with *Pokémon* singer Jason Paige was brilliant. Insightful, intelligent and uplifting. You should give him a regular feature in the magazine!

On a different note, is there any news on *Project Y* for the Mega Drive? You covered it a while back and it looked great, but the lack of any news or updates online makes me wonder if it's been cancelled?
Tim Fitches

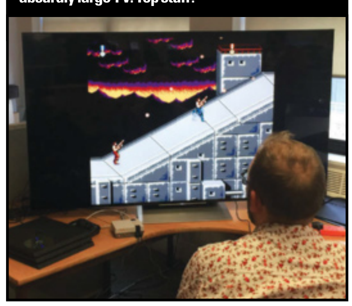
Jason Paige will undoubtedly be thrilled to hear that his inspirational messages are being heeded by the Retro Gamer readership. Unfortunately we don't have the space for another columnist right now, but if we ever need theme music he might just be the man we call.

While its price and release date both remain shrouded in mystery, it's clear that Watermelon is still working on *Project Y*. The last public update on the game came a few months ago, noting that some stages had undergone some visual

DISCUSSED THIS MONTH

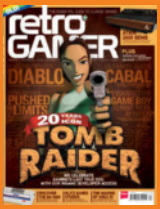
The Big Telly

Our colleagues on *Games*™ just got a brand-new 65 inch 4K HDR TV, to best appreciate the PS4 Pro and Xbox One S. We also saw potential in this new device – finally, an opportunity to play *Super C* on the Nintendo Classic Mini on an absurdly large TV. Top stuff!



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redesigns, but that remaining programming work was mostly going to be on gameplay tweaks. We'll be sure to pick it up for review when it becomes available.

TACKLING REISSUES

Hi,
I'd like to say I'm a fan of the magazine, for over a year I've been buying it every month. However, I'd love to have some of your old magazine editions for my collection, but they show as 'Sold Out' on the website. Is there no way to purchase these? I know I can purchase the digital versions, but I want the physical ones. Do you ever do reprints?

Pedro Brito

Hi Pedro, we're glad to hear you're enjoying the magazine. When we reprint features, we do so in bookazines such as *The Nintendo Archives* or *Retro Gamer Annual*. We've only ever reprinted one standard issue before – we packaged a reprint of the first issue with issue 100 as a celebratory gift. However, this isn't something we plan to do for any other issues, so if you're determined to collect them you'll need to track these down via eBay or other second-hand sources.

SONIC YOUTH

Dear Sir or Madam,
The Eighties has been regarded as a golden age of music and I believe this is true for the computer scene too!

Who can forget the classic jingles for titles such as *Kentilla* and *Zoids* (still one of my favourites) and dozens of other tunes arranged by the likes of Rob Hubbard and David Whittaker?

Perhaps somebody, somewhere ought to release a CD of these scores and give the younger generation a chance to enjoy them too!

Stuart Hardy

You'd be surprised to see just how many CDs of these original scores are out there, Stuart! Over recent months, we've seen *A Temporal Shift* from Uncle Art (*Starglider*, etc.), *Reformation* from Matt Gray (*The Last Ninja 2* and more), and Chris Huelsbeck's *Turrican II: The Orchestral Album*. We do cover them from time to time, so make sure you check our news pages and The Vault.

PIXELS TO PAINT

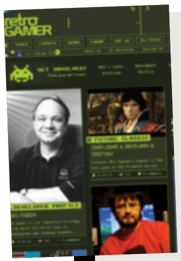
Dear all,
Does anybody remember *Rod Land*? I was doing an art project for The Big Draw in October where I took old things and updated them. Having bought a preprinted canvas from a local charity shop, my brother suggested I "do something with that whale from *Rod Land*". Tam and Rit were an afterthought…

Bekky Mannox

Nice work Bekky, thanks for sharing it with us! *Rod Land* is definitely one of those games we need to do an Ultimate Guide for…



» *Rod Land* is all too often forgotten, so we're pleased to see Bekky Mannox giving the game some love.



From the forum

» www.retrogamer.net/forum

Every month, Retro Gamer asks a question on the forum and prints the best replies. This month we wanted to know…

What's your favourite Tomb Raider memory



bounty bob
Wasn't very keen on the game itself, but loved the mod that made her naked. The developers included a cheat code for *Tomb Raider II* but when you used it she blew up into bits so didn't really play it after that.

RG_Drew
I always remember how it was used in *Spaced*, where Tim (Simon Pegg) used it as an outlet of rage over his girlfriend leaving him… by the way of making Lara Croft repeatedly drown.

adippm82
I went into my local Choices Video to buy *Fighting Vipers* for the Saturn, picked that up and then noticed the *Tomb Raider* box, thought it looked interesting, and having more disposable income back then bought that as well, loaded it up and absolutely loved it, especially how the beautiful score would kick in at various points, such as seeing a waterfall for the first time.

necronom
Tomb Raider III was the first PlayStation game I played. Me and my brother were looking at the screen when the game started, with Lara on a grassy slope and we looked at each other and said "Is it on? Is that actually going to move?" I moved the stick and the whole screen spun round in real-time. We were impressed to say the least.

RichL
The T-Rex, of course. Or the bit with the poisonous arrows that if you followed the animal tracks in the snow they wouldn't hit you.

theantmeister
I remember really enjoying it until I got hopelessly stuck on one of the later levels. And people think the Water Temple is hard!

retro GAMER

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Our latest Ultimate Guide examines Atari's excellent sequel to its classic hack-and-slash

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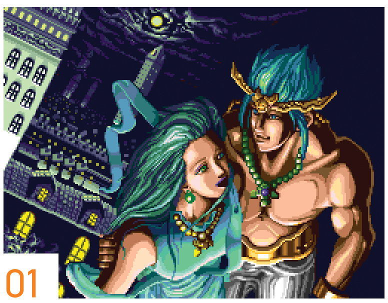

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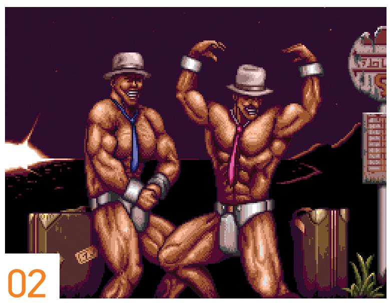
CHO ANIKI

» The dastardly Bo Emperor Bill has won the past ten Great Galaxy Bodybuilding contests, but now he's struggling to maintain his protein supply and has decided to invade your realm in order to establish factories. Can our heroes Idaten and Benten thwart his ambitions in this odd PC Engine CD shoot-'em-up? Of course they can, dummy – so let's skip to the ending and see what happens



01

» Our heroes fly off across the night sky, satisfied that they've put an end to Bo Emperor Bill's plan to invade their realm. Wherever that final battle took place, it's pretty picturesque – just look at that attractive cityscape…



02

» Your partners in this endeavour to bring justice to the bodybuilding world, Adon and Samson, bid you farewell. They've got their cases packed already and they've got hats on, in case you couldn't tell that they were about to leave.



03

» One year later, the winners of the latest Great Galaxy Bodybuilding contest are about to be revealed – but we can't see who they are because of the silhouette effect hiding them. Oh, how exciting! Whoever could they be?



04

» Why, it's Adon and Samson winning silver and bronze – and just like always, they're flexing for the adoring crowd while wearing some extraordinarily skimpy underwear. But never mind those guys, because our winner is one of our protagonists, the galactic bodybuilding hero and all-round nice dude Idaten!



05

» In fact, Idaten is so photogenic that when the camera zooms in on his face, his teeth actually do that 'ping' that you only ever see in cartoons and advertising. Bizarre dental special effects aside, Idaten makes us feel safe and we'd like him to protect us with his enormous, muscular arms.


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